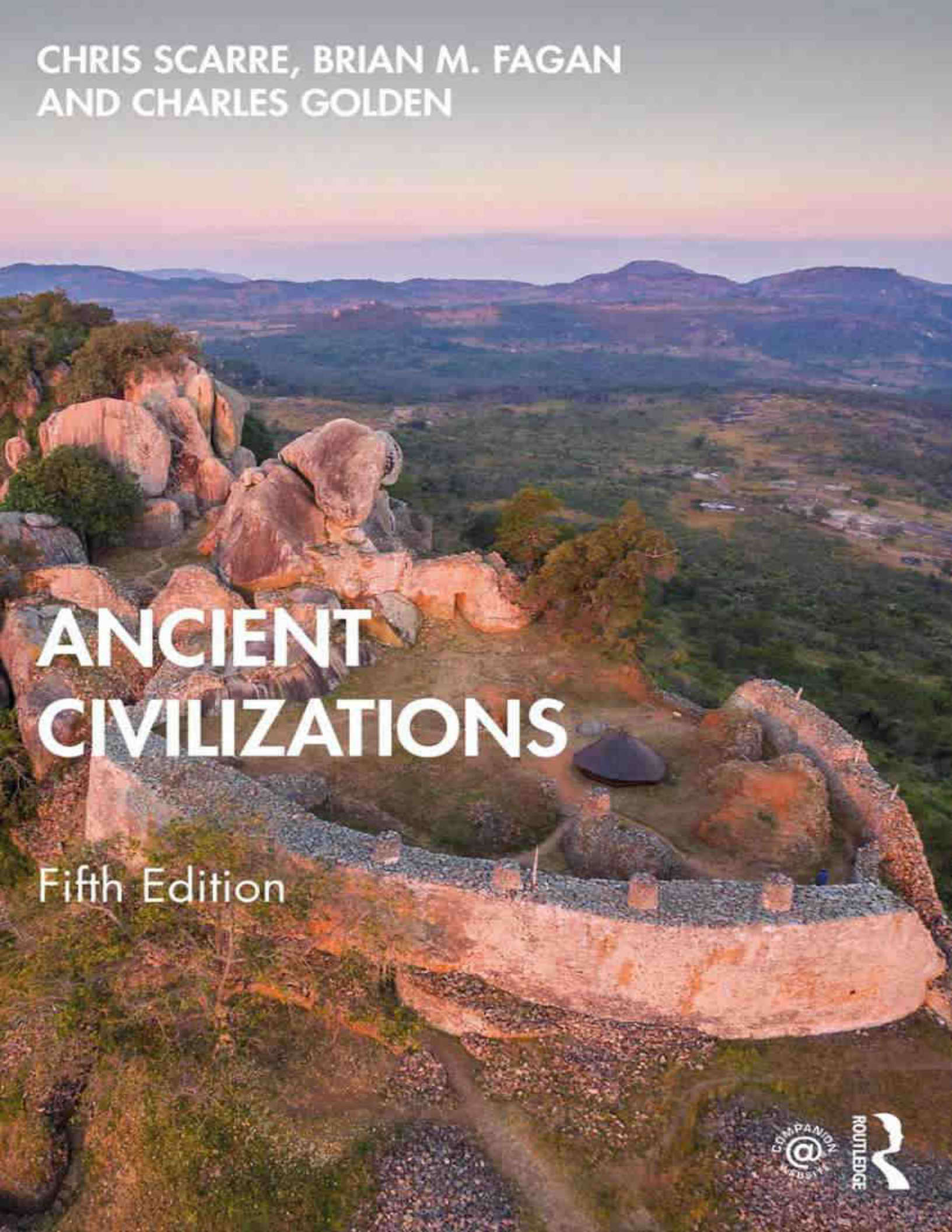
CHRIS SCARRE, BRIAN M. FAGAN
AND CHARLES GOLDEN



ANCIENT CIVILIZATIONS

Fifth Edition

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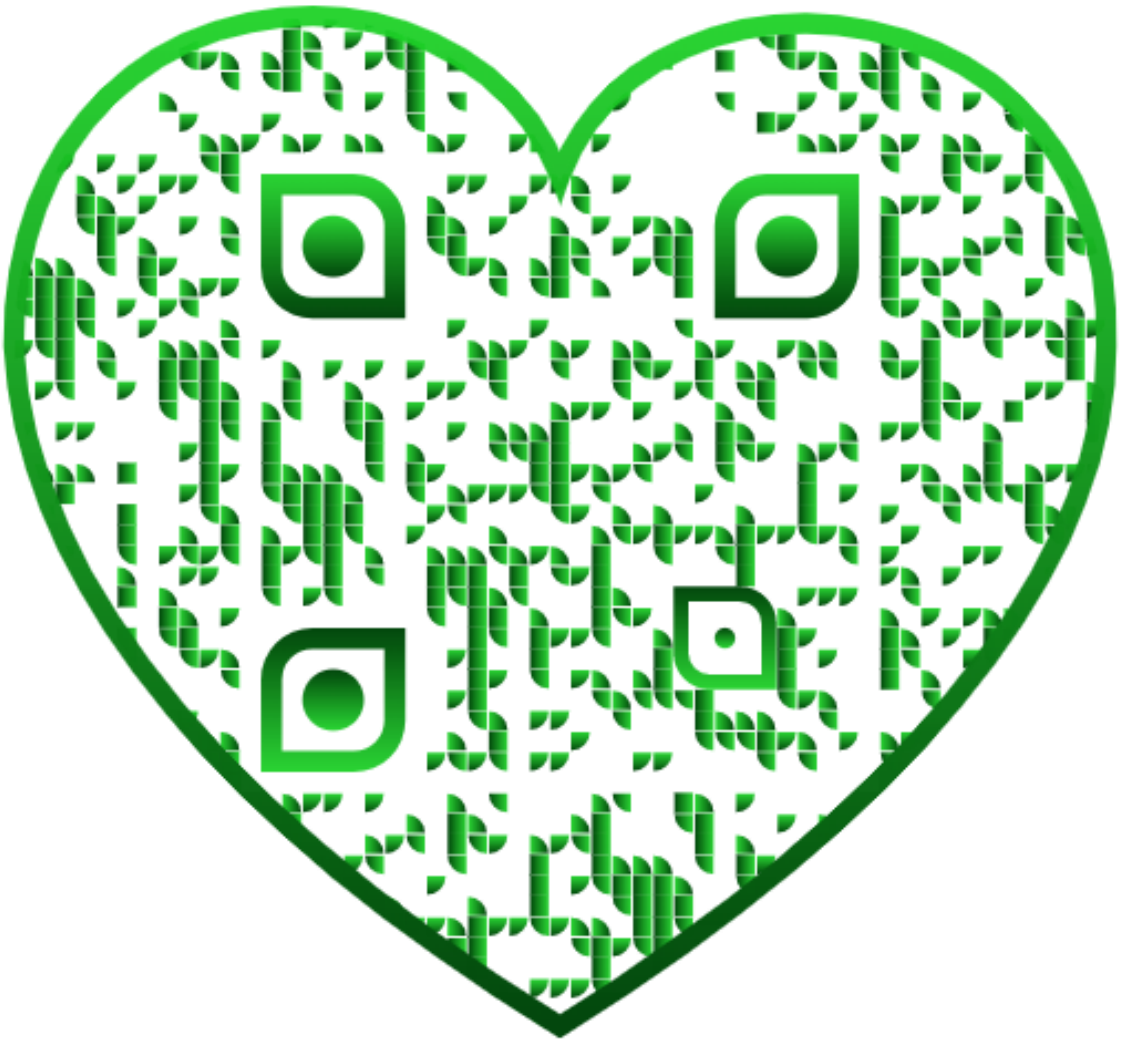

ANCIENT CIVILIZATIONS

Ancient Civilizations offers a comprehensive and straightforward account of the world's first civilizations and how they were discovered, drawing on many avenues of inquiry including archaeological excavations, surveys, laboratory work, highly specialized scientific investigations, and both historical and ethnohistorical records.

This book covers the earliest civilizations in Eurasia and the Americas, from Egypt and the Sumerians to the Indus Valley, Shang China, and the Maya. It also addresses subsequent developments in Southwest Asia, moving on to the first Aegean civilizations, Greece and Rome, the first states of sub-Saharan Africa, divine kings and empires in East and Southeast Asia, and the Aztec and Inka empires of Mesoamerica and the Andes. It includes a number of features to support student learning: a wealth of images, including several new illustrations; feature boxes which expand on key sites, finds, and written sources; and an extensive guide to further reading. With new perceptions of the origin and collapse of states, including a review of the issue of sustainability, this fifth edition has been extensively updated in the light of spectacular new discoveries and the latest theoretical advances.

Examining the world's pre-industrial civilizations from a multidisciplinary perspective and offering a comparative analysis of the field which explores the connections between all civilizations around the world, this volume provides a unique introduction to pre-industrial civilizations in all their brilliant diversity. It will prove invaluable to students of Archaeology.

Chris Scarre is an archaeologist specializing in the prehistory of Europe, with a particular interest in the archaeology of Atlantic facade. He has participated in fieldwork projects in Britain, France, Greece, and India, and

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Brian M. Fagan is one of the world's leading archaeological writers and an internationally recognized authority on world prehistory. He is Professor Emeritus of Anthropology at the University of California, Santa Barbara, and has written several best-selling textbooks: *Ancient Lives: An Introduction to Archaeology and Prehistory*; *Archaeology: A Brief Introduction*; *Archaeology and You*; *In the Beginning: An Introduction to Archaeology*; *A Brief History of Archaeology: Classical Times to the Twenty-First Century; People of the Earth;* and *World Prehistory: A Brief Introduction.*

Charles Golden is a Mesoamerican archaeologist, whose research has focused on the borders between ancient Maya kingdoms in Mexico and Central America, and the economic, social, and ritual ties that bound rural villages into larger political communities. He is Associate Professor of Anthropology at Brandeis University in Waltham, Massachusetts, and editor of *Continuities and Changes in Maya Archaeology: Perspectives at the Millennium*, as well as *Maya Archaeology, Vols. 1–3*.

Fifth Edition

ANCIENT CIVILIZATIONS

Chris Scarre, Brian M. Fagan and Charles Golden

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PREFACE

Three thousand, four thousand years maybe, have passed and gone since human feet last trod the floor on which you stand, and yet, as you note the recent signs of life around you—the half-filled bowl of mortar for the door, the darkened lamp, the finger mark on the freshly painted surface, the farewell garland dropped on the threshold. . . . Time is annihilated by little intimate details such as these, and you feel an intruder.

—Egyptologist Howard Carter, notebook entry on Tutankhamun's tomb, November 26, 1922.

Ancient civilizations tempt romantic visions of the past: golden pharaohs, great cities and temple mounds, lost palaces mantled in swirling mists. The discovery of the Assyrians, Homeric Troy, and the abandoned Maya cities of Central America was one of the nineteenth-century's great adventure stories. Nineteenth-century archaeologists like Englishman Austen Henry Layard, who excavated biblical Nineveh, and New Yorker John Lloyd Stephens, who revealed the ancient Maya to an astonished world, became celebrities and best-selling authors. They and other early excavators are the prototypes of the swashbuckling Indiana Jones of late twentieth-century movie fame. The romance continued into the 1920s, culminating in Howard Carter and Lord Carnarvon's dramatic discovery of the undisturbed tomb of the pharaoh Tutankhamun and Sir Leonard Woolley's spectacular excavation of the Royal Tombs at Ur in Iraq. Even today, the occasional spectacular find, like the terracotta regiment of the first Chinese emperor Qin Shihuangdi or the Lords of Sipán in coastal Peru, reminds us that archaeology can be a profoundly exciting endeavor.

The nineteenth century was the century of archaeological adventure. The twentieth century saw archaeology turn from a casual pursuit into a complex, highly specialized academic discipline. *Ancient Civilizations* describes what we know about the world's early civilizations today, 175 years after John

Lloyd Stephens and artist Frederick Catherwood stumbled through the ruins of Maya Copán and Paul-Emile Botta and Austen Henry Layard electrified London and Paris with spectacular bas-reliefs from Assyrian palaces. This book is about science and multidisciplinary research, not about adventure and romance, an attempt to summarize state-of-the-art knowledge about preindustrial civilizations in every corner of the world. We draw on many avenues of inquiry: on archaeological excavations, surveys, and laboratory work; on highly specialized scientific investigations into such topics as the sources of volcanic glass and metals; and on both historical and ethnohistorical records. In the final analysis, this book is a synthesis of science and ancient voices, for in many cases the latter add telling detail to a story reconstructed from purely material remains.

Ancient Civilizations is divided into six parts that lead logically from one to the other. Part I gives essential background, some key definitions, and historical information. It also describes some of the major theories concerning the development of civilizations, one of the key controversies of archaeology for more than a century. Part II focuses on the very first civilizations: Mesopotamia, Egypt, the Indus Valley, and the earliest Chinese states. Parts III and IV build on earlier foundations and trace later civilizations in Southwest Asia and the Mediterranean. This book is unique in that it goes on to describe classical Greek and Roman civilizations, whose roots lie much deeper in the past than many authorities would have one believe. Part V links the Mediterranean and Asian worlds with the discovery of the monsoon winds of the Indian Ocean about 2,000 years ago. Finally, the last four chapters, Part VI, describe the remarkable states of Mesoamerica and the Andean region of the Americas. An epilogue rounds off the narrative.

This book provides the reader with a straightforward narrative account of the ancient civilizations from their first appearance in Southwest Asia some 5,000 years ago to the Spanish conquest of Mexico and Peru in the early sixteenth century A.D. As such, it is written from a global perspective and without forcing it into a particular theoretical framework—this results both from the variability in the ancient societies themselves and from the diversity of the ways that they have been researched in recent decades. Chapter 2 summarizes major theoretical viewpoints and makes the point that the development of state-organized societies was a complex, multifaceted process, which took hold in many parts of the world. It also stresses that there were no overall principles or rules that governed this process. Rather, each

civilization is a reflection of local conditions and of the distinctive worldview that shaped its institutions. Divine kingship is characteristic of Egyptian civilization, the Khmer, the Maya, and the Inka. But that does not mean that divine monarchy originated in one place and spread to all parts of the world thereafter. If there is a theoretical bias to this book, it is that each early civilization was a unique society, an attempt by human beings (as individuals and groups) who subsisted in very different environments to deal with problems of growing populations, increasingly crowded living conditions, and ever-greater economic, political, and social complexity. We know that each instructor will use this book in a different way, each bringing his or her theoretical emphases to the narrative in these pages, so this approach seems appropriate.

We provide a Guide to Further Reading at the end of the book rather than a comprehensive bibliography because the individual literatures for each area are so extensive and complex. The works cited in the chapter-by-chapter Guide to Further Reading will give readers access to the more specialized literature through widely quoted standard works and some guidance through a myriad of specialized monographs and periodical articles.

Inevitably, a book of this nature is a compromise, both in geographical coverage and in topics selected for more detailed discussion. We are also limited in our ability to illustrate the complex archaeological record of these societies. For example, our coverage of many aspects of Egyptian and Mesopotamian civilization is inevitably sketchy, especially in the areas of religion, philosophical beliefs, and literature. The Guide to Further Reading refers the reader to works that cover these subjects in detail. Our primary concerns are to achieve balanced geographical coverage and to place the world's ancient civilizations in as broad an archaeological and historical context as possible. We believe that one can understand these societies only by seeking their roots deep in the past, by reconstructing their local environments, and by placing them in both an indigenous and a broader perspective. We hope that we have succeeded in this.

HIGHLIGHTS OF THE FIFTH EDITION

The fifth edition of *Ancient Civilizations* has been revised throughout to reflect the latest advances in the field, and it includes suggestions from both instructors and students who have taken the trouble to contact us after reading

previous editions. There is fresh coverage throughout the book, specifically of new discoveries and the latest theoretical advances. For this edition we are especially pleased to welcome Charles Golden, expert on the early civilizations of the Americas, as the third member of our team.

Updating and Rewriting

- East Asia: Chapter 6 has been substantially revised to include the wealth of new research that is becoming available on the development of early civilization in China.
- Africa: A new chapter has been added (Chapter 13) to cover the early states and civilizations of sub-Saharan Africa, including Great Zimbabwe, Ife, and Benin.
- Mesoamerica and the Andes: Chapters 16 through 19 have been extensively revised and expanded to accommodate the results of the latest fieldwork and research.
- Revision and updating throughout: The entire text and the Guide to Further Reading have been revised and updated on a page-by-page basis.

Feature Boxes

Three types of in-text feature boxes—designed to amplify the narrative—enhance the book:

- Discoveries: These feature boxes describe important finds that changed our perceptions of early civilizations.
- Sites: These feature boxes discuss sites of unusual interest and significance.
- Voices: These feature boxes refer to writings of ancient times, giving a unique “voice” to the text.

New and Revised Art Program

The fifth edition’s art program has been expanded with new photographs and new or revised line art. These illustrations provide additional background on

recent discoveries, amplify the narrative, or replace older images with new images. Some expanded captions serve to integrate the illustrations more closely into the text.

Complete Redesign

The entire book has been completely redesigned to make it more user-friendly.

ACKNOWLEDGMENTS

This book results from years of experience, from fieldwork, from academic conferences, from visiting many of the sites we describe, and from hours of discussion with fellow archaeologists. It is impossible to name all of these colleagues but we hope that they will take this collective acknowledgment as an inadequate reflection of our sincere gratitude for their advice and intellectual insights.

A number of scholars reviewed the manuscript while it was in preparation. For the fifth edition we are grateful to the Rob Witcher, Catherine Draycott, and Ann Brysbaert for reviewing the Mediterranean chapters, and to Ken'ichi Sasaki for advice on Japan. We are also deeply grateful to the Routledge production team, and to Rebecca Dunn and her colleagues at codeMantra, who made the process of turning a complex manuscript into a published book such a pleasure.

Chris Scarre
Brian M. Fagan
Charles Golden

PART I

Background

Between them Sennacherib and his hosts had gone forth in all their might and glory to the conquest of distant lands, and had returned rich with spoil and captives, amongst whom may have been the handmaidens and wealth of Israel. . . . Through them, too, the Assyrian monarch had entered his capital in shame, after his last and fatal defeat.

—Austen Henry Layard (1853, 212) on the human-headed bulls that guarded Assyrian King Sennacherib's palace at Nineveh.

1

The Study of Civilization

FIGURE 1.0 Assyrian King Assurbanipal (668–627 B.C.) hunting lions, a scene depicted in this relief carved panel from his palace at Nineveh in Iraq. DEA/G. Dagli Orti/De Agostini/Getty Images.

The chariot rattles over the plains as the driver clutches the reins, steadying the horses so the king can take better aim. Bowstring pulled taut, Assurbanipal, supreme ruler of the mighty Assyrian empire, stands ready to fire a volley of arrows against the fleeing lions. Already he has had good sport in the royal park, killing or wounding several of them in a show of kingly skill. Suddenly king and driver hear a roar behind them. An injured lion breaks cover and charges the chariot, seeking to kill its tormentors, but the royal attendants are too quick. Stationed on the back of the chariot for just such an emergency, they thrust their long-handled spears into the lion's chest. The great beast falls dead in the dust. . ..

CHAPTER OUTLINE

What Is a "Civilization"?

Comparing Civilizations
Civilizations and Their Neighbors
“Primary” and “Secondary” Civilizations
The Rediscovery of Ancient Civilizations
Classical Civilizations: Greece and Rome
Egypt
Mesopotamian Civilizations: Assyrians and Sumerians
Greece and Crete: Minoans and Mycenaeans
The Indus and East Asia
The Americas: Mesoamerica
The Americas: Peru
The Threat to Ancient Civilizations

The modern visitor can see the scene of King Assurbanipal’s lion hunt, carved in stone, in the Assyrian gallery of the British Museum. It is one of the many monuments of “civilization” that fill great museums in Europe and North America, be it the Louvre in Paris or the Metropolitan in New York. Wander into adjacent galleries and you will find mummiform coffins from ancient Egypt and intricate bronze ritual vessels from early China. Just around the corner will be red-figured vases from classical Athens or marble busts of Roman emperors. Many enthusiastic and intrepid tourists venture further afield and visit the places from which these priceless relics originated. They wonder at the sheer size of the pyramids in Egypt or at the desolation that now surrounds many of the ancient cities of Mesopotamia. Sailing the Aegean, they trace the routes taken by ancient Greek mariners 2,500 years ago. In the south of Mexico, Maya ballcourts inspire visitors to ponder how the rules of game worked, and which players may have been sacrificed at the end of play. They hike the Inka trail of Peru, emerging through ancient gates to take in the spectacular views offered by Machu Picchu.

All these are remains of what today we call “ancient civilizations” (see Figure 1.1; Table 1.1), and their study has attracted scholars and laypeople for centuries. *Ancient Civilizations* describes these extraordinary early societies, using archaeological evidence and historical records, oral traditions, and scientific evidence from many academic disciplines. Thus, our story comes not only from modern science but from the voices of those who created the early civilizations as well.

FIGURE 1.1 The distribution of early preindustrial civilizations

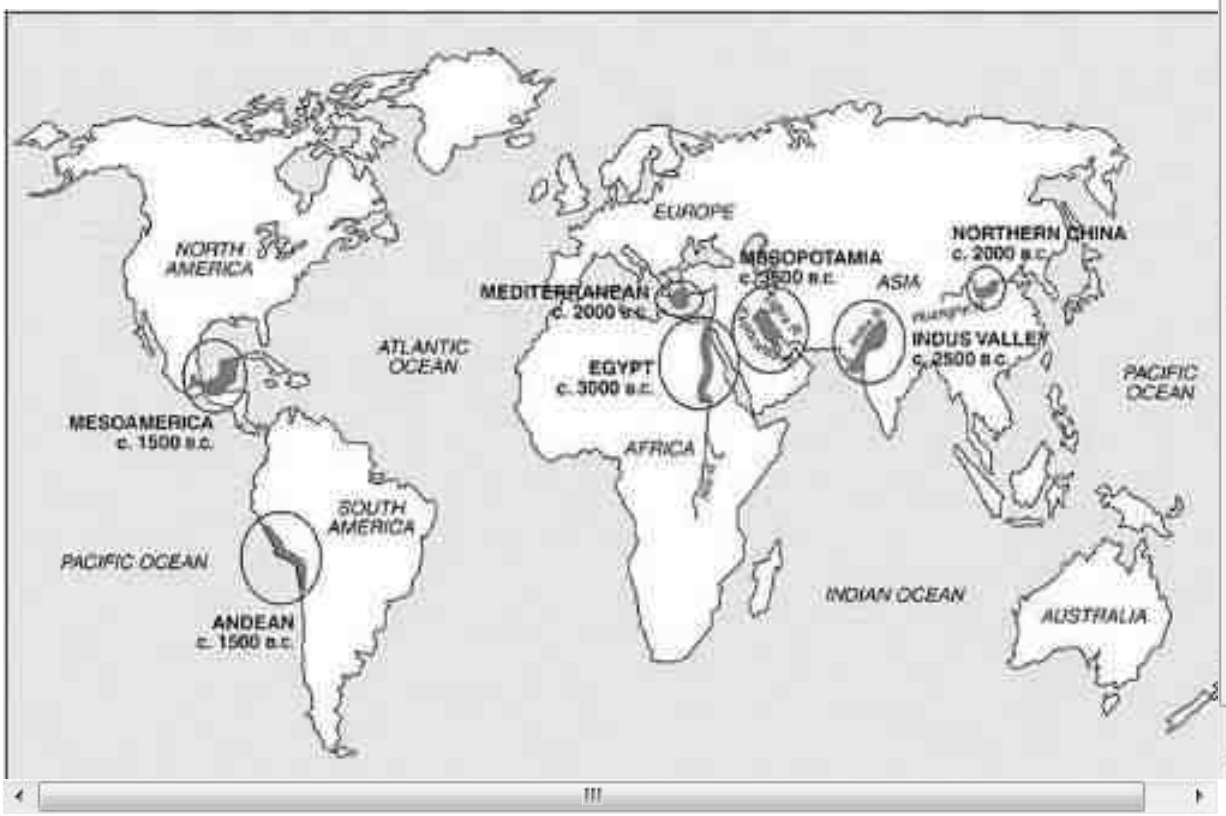
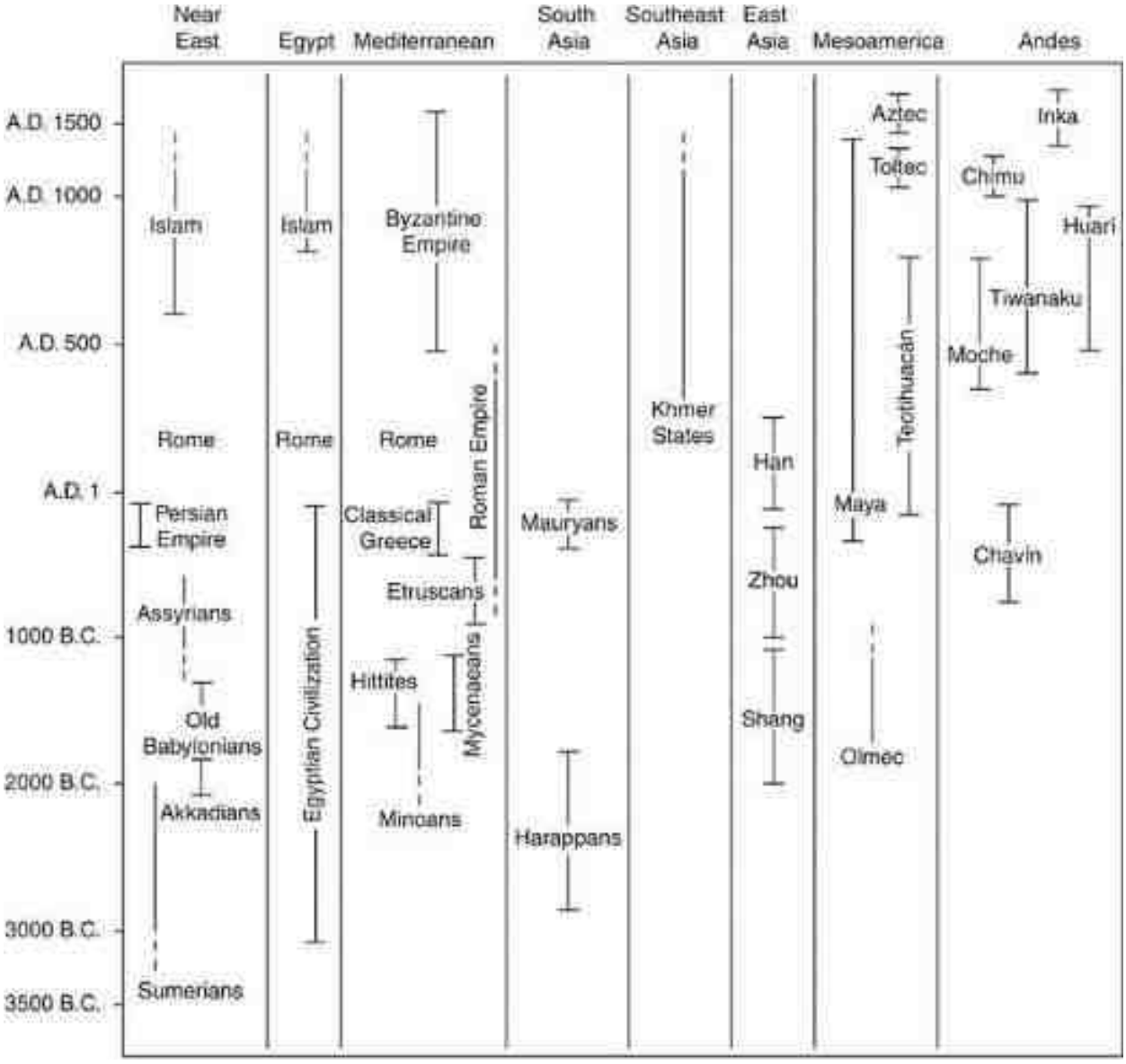


TABLE 1.1 Chronological table of the world's earliest civilizations.



The societies we will describe span 5,000 years and cover most regions of the world: from the first cities of the ancient Mesopotamia, around 3500 B.C.; through Egypt and China, classical Greece and Rome; to the New World civilizations of the Maya and Olmec; ending with the Aztec and Inka empires, which were flourishing at the time of the Spanish conquest in the sixteenth century A.D.

WHAT IS A "CIVILIZATION"?

The proper definition of civilization has occupied the minds of archaeologists, anthropologists, and historians for generations. An enormous scholarly literature surrounds this complex subject, but for the purposes of this volume we must content ourselves with a simple, if possible all-embracing, working definition that covers a great multitude of complex, early civilizations.

According to that ultimate arbiter of the English language, the *Oxford English Dictionary*, "to civilize" is "to bring out of a state of barbarism, to instruct in the arts of life; to enlighten and refine." The notion that "civilization" is a condition superior to "barbarism" underlay nineteenth-century doctrines of racial superiority of more than a century ago and lives on today in the popular understanding of the word. It is perhaps only natural to admire the grandiose monuments, the powerful artworks, and the evocative literature left by the ancient Romans or Egyptians. These give us a vivid picture of complex societies, in some senses comparable to our own. But they are not "better" than earlier or contemporary societies that were less complex. Such a value-laden contrast has no place in archaeology. Archaeologists do not regard civilizations as better than hunter-gatherer societies or those of small-scale farmers. Instead, they are all understood to be only different facets of the rich panoply of human social organization.

Politically minded commentators might well draw a very different conclusion: that the ancient civilizations, with their privileged elites, centralized governments, and crowded, insanitary cities were worse places to live for the ordinary peasants or the urban populace. There is certainly ample evidence of the cruelty that so-called civilized societies could inflict on their enemies and their own subjects, through warfare, slavery, coercion, and punishment. Even in classical Athens, home of the philosophers Socrates and Plato, and the very hearth of democracy, there were probably as many slaves condemned to working the lead and silver mines as there were male Athenian citizens who were qualified to vote. Many of the famed Greek artworks we so much admire today were produced for an elite and seen by only a privileged few. Yet the cultural and scientific achievements of the early civilizations are undeniable, and while we may temper our admiration, we must not underestimate their significance to world history.

A hundred years ago, the climate of scholarly opinion was very different. Nineteenth-century archaeologists and anthropologists were heavily influenced by theories of biological and social evolution developed by the

biologist Charles Darwin and the social scientist Herbert Spencer. In his *Origin of Species,* published in 1859, Darwin had shown that in the natural world, it was only the fittest plants and animals that survived and that "natural selection" was the guiding force in making others extinct. Early social scientists such as Spencer attempted to apply the same reasoning to human societies. They saw colonial powers conquering and transforming (for the better, in their minds) societies throughout the world, and they considered this to be proof that European civilizations were in an evolutionary sense "superior." This thinking and the achievements of nineteenth-century archaeologists were summarized in a guidebook to the archaeology exhibits at the Paris Exposition of 1867, which proposed that there existed "laws" of human progress and similar human development.

English anthropologist Sir Edward Tylor was one of the fathers of nineteenth-century anthropology and a fervent believer in human progress. He surveyed human development in all of its forms, from the Paleolithic flint axes found in France, to Maya temples in Central America, and finally to Victorian civilization. Tylor reemphasized a three-level sequence of human development popular with eighteenth- and early nineteenth-century scholars: from simple hunting "savagery" through a stage of simple farming to "barbarism," and then to "civilization," the most complex of human conditions. Tylor's contemporary, American anthropologist Lewis Henry Morgan went even further. In his *Ancient Society* (1877) he proposed no fewer than seven distinct periods of human progress, starting with simple savagery and culminating in a "state of civilization."

Such doctrines of unilinear (single-line) cultural evolution remained popular well into the twentieth century. In the 1930s and 1940s, Australian-born archaeologist Gordon Childe refined this general approach. In *What Happened in History* (1942), he equated "savagery" with the hunter-gatherers of the Paleolithic and Mesolithic, "barbarism" with the farmers of the Neolithic and Copper Age, and "civilization" with the Bronze Age communities of Mesopotamia and the Levant. As "barbarism" was superior to "savagery," so was "civilization" to "barbarism." Childe believed that progression from one condition to the next needed little explanation, only the opportunity to be presented for societies to make the change. These emotive terms are no longer acceptable in modern archaeological thinking.

Today, archaeologists use the term *civilization* as a shorthand for urbanized, state-level societies. These are sometimes called "preindustrial

civilizations" because they relied on manual labor rather than fossil fuels such as coal. Not everybody accepts the definition in such simple terms. Some scholars have even drawn up long lists of features that they feel societies must possess to qualify as civilizations. Such lists often include writing and metallurgy. The limitations of this approach are obvious. For example, the Inka societies of the Andes did not use writing *per se*, yet they had centralized government, substantial cities, an ordered and hierarchical society, specialized craft skills, metallurgy, and an elaborate network of roads and rest houses, as well as a record-keeping system involving knotted strings. Few would deny them the status of a civilization.

How, then, do archaeologists recognize and define a civilization? This is a difficult area of discussion. We have already referred to two of the primary characteristics: urbanization (the presence of cities) and the state (a centralized political unit). These features, in turn, need to be defined:

- A city is a large and relatively dense settlement, with a population numbered in at least the thousands. Small cities of the ancient world had 2,000 or 3,000 inhabitants; the largest, such as Rome or Changan (China), may have had over a million.
- Cities are also characterized by specialization and by interdependence between the city and its rural hinterland and between specialist craftspeople and other groups within the city. The city is what is termed a "central place" in its region, providing services for the villages of the surrounding area while at the same time depending on those villages for food. Most cities, for example, would have had a marketplace where agricultural produce could be exchanged.
- Cities also have a degree of organizational complexity well beyond that of small farming communities. There are centralized institutions to regulate internal affairs and ensure security. These usually find expression in monumental architecture such as temples or palaces or sometimes a city wall. Here we must recognize an overlap between the concept of the city and the concept of the state. States, too, are characterized by centralized institutions. It may be possible to have states without cities; but it is hard to envisage a city that is not embedded within a state.

An ancient city site will usually be obvious to archaeologists, both from its size and from the scale of its remains. The state is more difficult to define. It is essentially a political unit, governed by a central authority whose power cross-cuts bonds of kinship. Kin groups do not disappear, of course, but their power is reduced, and a new axis of control emerges that is based on allegiance to a ruling elite, including officials who may constitute a bureaucracy.

Cities and states are not the only factors that have been cited in historical attempts to define civilization. One of the most famous attempts was made by Gordon Childe, whom we have already mentioned. In 1950, he drew up a list of ten traits that he considered to be the common characteristics of early civilizations throughout the world. In the 1970s, archaeologist Charles Redman divided Childe's list into "primary" and "secondary." The primary characteristics include cities and states, together with full-time specialization of labor, concentration of surplus, and a class-structured society. The five secondary characteristics are symptoms or by-products of these major economic and organizational changes: monumental public works, long-distance trade, standardized monumental artworks, writing, and the sciences (arithmetic, geometry, and astronomy). Nonetheless, we have already noted the shortcomings of such lists of shared traits, and not all civilizations possess all of Childe's ten traits. While they may be useful to think with, such lists can never be considered an adequate "definition" of a civilization.

This is a book about preindustrial civilizations drawn on a very wide canvas. Many surveys of early civilization confine themselves to the first states and to the controversies surrounding the origins of civilization, one of the great issues in archaeology. We have chosen instead to describe early civilizations on a global basis and their development over long periods of time. For instance, in Southwest Asia, we cover not only the first city-states but also the empires of Assyria and Babylon. In the Mediterranean region, where many surveys of early civilization stop with the fall of Late Bronze Age Mycenae in about 1200 B.C., we have included chapters on the Greeks, Carthaginians, Etruscans, and Romans. In East Asia, coverage of the earliest Chinese civilization, that of the Shang, is followed through in a later chapter on the Han empire, where the emergence of states in Korea and Japan is also outlined. In Africa, we deal not only with Egypt, Meroe, and Aksum but also with the later kingdoms of Benin and Great Zimbabwe. Similarly, in the

Americas, we cover the entire 3,500-year trajectory of state-organized societies in Central and South America.

COMPARING CIVILIZATIONS

The world's early civilizations developed along many different lines while at the same time sharing some fundamental core features, such as complex political hierarchies, that define them as civilizations. Although the specifics of urban spaces differ, cities are characteristic of both Sumerian and Aztec civilizations on different sides of the world. While details of construction and function vary wildly, the Egyptians buried their monarchs under pyramids, as did the Maya. Social inequality is common to all early civilizations, as is a strongly centralized government headed by a minority who controlled all valuable resources and the loyalty and labor of thousands of commoners. Force, or the threat of force, was all-important as a means of coercing rivals and rebellious citizens. The Egyptians, the Khmer of Cambodia, and the Inka of Peru all had forms of divine kingship, but vary in many other respects. Comparison is helpful at a different level, however, one that does not seek to establish grand theories but merely to describe or review similarities and differences. This was the approach taken by Canadian archaeologist Bruce Trigger, who compared seven early civilizations in such features as population density, technology, religious beliefs and practices, legal systems, and family and community organization.

Trigger emphasized an important distinction between civilizations based on city-states (such as those of Mesopotamia, the Maya, or Greece) and those (such as Egypt, the Inka, and Shang China) that were unitary or territorial states. He postulated that in city-states the city's populace made up the whole spectrum of society, with craftspeople, farmers, and the elite. The cities themselves were hubs of commercial activity, with flourishing markets. By contrast, in territorial states the earliest cities were principally political centers. Farmers lived in the rural hinterland in small settlements secure without walls (since territorial states were less afflicted by internecine strife). Trigger argued that in territorial states the interaction between rural farmers and urban centers was largely in the form of taxes paid by the farmers to the city-based bureaucracies. The farmers were less reliant on urban craftspeople and markets than they were in city-state societies.

The nature of the early cities themselves was very variable. Some were dense concentrations of population, bounded by a city wall for defense. Others were ceremonial and administrative centers, surrounded by more diffuse populations that supported the needs of the elites and those resident in the urban core. This “low density urbanism” was a feature of civilizations in tropical latitudes such as the Maya, or the Khmer whose vast complex at Angkor spread over many square kilometers. Even in walled cities, however, we should not imagine that the whole of the space was taken up by buildings: An early description of the Mesopotamian city of Uruk states that one-third of the walled area was occupied by gardens.

Contrasts and parallels such as those proposed by Trigger are thought-provoking and provide valuable new insights. They do not explain everything. They do, however, invite us to address general questions and to consider why human societies in very different contexts in widely separated parts of the world chose to adopt such strikingly similar solutions, a point we return to shortly.

CIVILIZATIONS AND THEIR NEIGHBORS

One fundamental feature shared by every civilization is a relatively dense concentration of people. This is the basis of both city-dwelling and state formation. Small bands of hunter-gatherers or subsistence farmers do not build cities, nor do they create territorial states. It is large concentrations of people that make these achievements possible or perhaps even make them necessary. Small-scale societies manage to survive quite successfully without the burdensome economic and political organization necessary to support and regulate city life. There is no set threshold for populations. Population density is quantitative, measurable in people per square kilometer or square mile. But the impact of such population density, and the transformation of societies that can result in the emergence of political complexity, is relative, and represents a complicated mix of cultural practices, local ecologies and climate, and technologies, among other variables. Once several hundred people are living in a single settlement—whether we would call it a large village or a small city—it becomes essential to have some centralized authority to give direction to the community and resolve disputes. Gradually, as a result of this process, these large populations become qualitatively as well as quantitatively different from other societies around them. It is not just that there are more

people crowded into a small space (be it a single city or a limited area of fertile farmland). Rather, they begin to organize themselves differently, to have distinct ideologies and social institutions. It is these innovations that identify them as civilizations.

It was organizing this rich human resource of dense populations that made possible the pyramids of Egypt and the Shang tombs at Anyang. But large populations also had a major impact on surrounding areas. Early civilizations were not hermetically sealed units. They generated a new level of need for raw materials, and those that were not found within their own territories had to be imported from abroad. Consider Mesopotamia as a typical example. The famous early cities of Ur, Uruk, and Babylon were in the south of the country, a fertile plain fed with water by the twin rivers Tigris and Euphrates. This was a land rich in crops and clay but hardly the place to find hard stone for tools, still less the copper, tin, and gold that were increasingly in demand by urban elites. To obtain these raw materials, Mesopotamian traders had to travel far afield, to the Zagros Mountains, the Taurus range of southern Turkey, across the Iranian plateau, or by ship to Oman or India. Here they came into contact with communities at a very different level of social organization. They traded Mesopotamian products in exchange for raw materials, winning the favor of local leaders by gifts of textiles and other products of foreign craftsmanship.

Such contacts were not always peaceful. The enormous human resources and centralized organization of early civilizations made it possible for them to dispense with the protocols of commerce and simply to raid, invade, or annex neighboring areas and appropriate their valuables. Mesopotamian records contain frequent references to military campaigns against troublesome mountain tribes. The converse was also true. Mountain tribes and desert nomads found rich pickings on settled lands. One object of state-organized military campaigns therefore was to dissuade people on the fringes from attacking the cities of the plain. More important, though, was the appropriation of timber, metal, and valuables or the extortion of other tribute. This dispensed with the requirement for the “civilized” to give anything—other than the threat of violence—in exchange for what they took.

Thus, being a close neighbor to an early state was often an uncomfortable experience. By means such as these the impact of early civilizations spread far beyond the confines of the states themselves. The peoples with whom they came into contact could hardly have remained unaffected by their

presence. We may imagine that local peoples were both impressed and mystified by the traders, with their exotic trade goods and stories of faraway places—still more so when a sizable army arrived on their doorstep, equipped with bronze weapons and armor, and led by a king dressed in priceless regalia, the likes of which they had never seen before. The prestige of civilizations among neighboring peoples should not be underestimated. It held true not only in early Mesopotamia, Shang China, or in the case of the Maya and Teotihuacán in Mesoamerica[1] but also in relations between Greeks and Romans and the "barbarian" peoples beyond their frontiers.

"PRIMARY" AND "SECONDARY" CIVILIZATIONS

We have discussed relations between civilizations and less-complex societies. What about contacts between the civilizations themselves? That such contacts existed is shown both by finds of traded items and by documentary evidence. Distinctive Mesopotamian cylinder seals, for example, turn up in the Indus Valley and tie in with the boast of King Sargon of Akkad (a Mesopotamian ruler) that Indus ships docked at his capital.

The vexing question is whether contacts from one civilization actually instigated or propelled the rise of another. This is where the terms *primary* (or *pristine)* and *secondary* come in. Primary is usually reserved for those civilizations that are thought to have come into being independently. They are sometimes called simply the "first civilizations." The list includes Mesopotamia and Egypt, the Indus Valley, Shang China, the Olmec of Mesoamerica, and the early civilizations of Peru. In none of these cases is stimulus from another center of civilization thought to have played a decisive role. The secondary civilizations are those of later date: notably the Minoans and Mycenaeans in the Aegean, the Aztec of Mexico, or the early civilizations of Nubia and Southeast Asia. In those cases it is held that influences from long-established civilizations had a crucial formative impact.

Many archaeologists (including us) would now question the usefulness of this division. Evidence of contact between civilizations is neither surprising nor rare. As we have seen, the need for raw materials and the prestige and power of these societies of unprecedented scale sent ripples far afield. They provided new sets of ideas about how to organize life and held out for all to see the wealth that might be available to elites in this new and complex type of society. But availability does not lead immediately or inevitably to

adoption. One of the most striking features of the early civilizations we describe in these pages is their individuality and distinctiveness. So, contact between civilizations, yes, but no simple connection between the rise of one and the birth of another.

The once popular idea, still sometimes proposed, that the early civilizations of the world share some common point of origin may easily be disproved by considering the global pattern. Contacts between Mesopotamia, Egypt, the Indus Valley, and the Aegean are clearly documented and come as no surprise. It does not lead us to regard any of them as simply an imitation of the others. Shang China, too, may have had some links with western Asia; at any rate the war chariots found in Shang graves at Anyang came from western Asia and must have reached China via the steppes of central Asia. But no archaeologist today would suggest that Shang civilization owes its origin to Western contact.

The case for independent development of civilizations becomes fully incontrovertible when we turn to the Americas. American civilizations were, to a greater or lesser extent, in contact with one another: trade routes bound the Ancestral Pueblos and Mesoamerican civilizations, maize agriculture spread out from Mexico across two continents, and metallurgy moved north from coastal South America to Mesoamerica. Yet there is no evidence for significant contact between indigenous American and Eurasian civilizations until the arrival of the Norse in Newfoundland in the late tenth century A.D. and Spanish conquistadors in Mexico five centuries later. Nonetheless, both Old World and New World civilizations share such features as agriculture, writing, metallurgy, urbanism, and state-level organization. The appearance of these parallel innovations in separate parts of the world is striking. Humans under certain conditions develop their societies along similar paths, but within the context of their own religious and philosophical beliefs; their own social traditions and conventions; and their own economies, environments, and technologies.

There is no need, then, to lay undue stress on contacts and borrowings in describing the rise of civilizations. In this book, we treat each as a separate, independent development, though at the same time noting the evidence for contact and trade between them.

THE REDISCOVERY OF ANCIENT CIVILIZATIONS

A century ago, a journey by boat up the Nile River took you through the heart of rural Egypt. Nineteenth-century travelers like the British writer Amelia Edwards described a kaleidoscope of village life unfolding along the banks, which they saw as little changed from the days of the pharaohs. The ruined temples and burial places of Egypt's ancient god-kings lay among modern mud-brick villages. Egyptian *fellahin* (peasants) have always known of the existence of their illustrious forbearers, just as the modern-day Maya of the Yucatán lowlands have always remembered their roots among great kingdoms of the past. In some cases, Maya communities carefully preserved oral histories and documents handed down from generation to generation, which now provide invaluable information on the remote past. Thus, in many cases, it is misleading to write of the "discovery" of the early civilizations. However, the "rediscovery" of the world's first state-organized societies over the past two centuries ranks among the greatest achievements of Western science.

Archaeologists have brought a refined and disciplined methodology to the study of ancient civilizations, which has produced often astonishingly detailed information about preindustrial states. Today's knowledge of the early civilizations results from a powerful synthesis of archaeology and data from historical and traditional sources. Thus, on many occasions, we are able to combine the data of science with actual "voices" from the remote past preserved in contemporary documents or even in oral traditions.

The beginnings of a formal discipline of archaeology began at least five centuries ago, in the hands of adventurers, antiquarians, and some remarkable pioneering scholars of ancient civilizations. For clarity, we describe the rediscovery of early civilizations in the order in which they were found.

Classical Civilizations: Greece and Rome

Our story begins during the Renaissance, in the fifteenth and sixteenth centuries. This was when European scholars, first in Italy, and then in northern Europe, took a new interest in the writings of the classical authors of Greece and Rome. Italian architects compared Greek and Roman texts on art and architecture with the remains of surviving Roman buildings to gain a new appreciation of classical principles of construction and design. The discovery of Roman artworks such as the marble statue of the god Apollo known as the Apollo Belvedere in 1489 directly inspired Italian Renaissance artists such as

Michelangelo. The interest in Greek and Roman art and literature was soon followed by an interest in the countries from which they came. Wealthy Europeans began to make their own collections of portable classical antiquities with a particular interest in Italy. In the early seventeenth century, King Charles I of England was one of the greatest of these collectors. So were the popes at Rome, whose collections of Etruscan, Greek, Roman, and Egyptian antiquities form a significant part of the holdings of the Vatican museums.

Italy was relatively accessible, and Italian rulers and noblemen were among the first excavators of Roman archaeological sites. These excavations fell well short of the standards acceptable today, and their primary aim was often the recovery of collectable objects. But some collectors did at least begin to record the provenance of artifacts such as vases in their original settings, be it a tomb or a residence, making scholars aware of the wealth of information that could be obtained from buried remains. The cities of Pompeii and Herculaneum, entombed in ash since the great eruption of Vesuvius in A.D. 79, provided some of the most spectacular results: Sculptures, bronzes, and precious metal objects were ripped from the ruins in the 1740s and 1750s on the orders of the king and queen of Naples. It was only in the 1860s that more sensitive methods were applied, and Pompeii began to yield evidence of splendid wall paintings and the gruesome plaster casts of those who died while fleeing from the ash-fall (Figure 1.2).

FIGURE 1.2 Victim of falling ash at the Roman city of Pompeii in southern Italy, destroyed by the eruption of Vesuvius in A.D. 79. Werner Forman Archive/Getty Images.

These early modern connoisseurs of ancient art and literature had less access to the Classical civilization of the eastern Mediterranean, since Greece remained under the control of the Ottoman (Turkish) Empire. Several Western European scholars and collectors nonetheless made visits to Greece, where they found many ancient buildings and monuments in a state of neglect and decay. A major turning point was the expedition of British architects James Stuart and Nicholas Revett in 1751–1753. They spent several months in Athens, drawing with meticulous accuracy the ruins of the great classical buildings they found there, and published the results in a handsome three-volume illustrated set on their return. Fifty years later the British diplomat Lord Elgin controversially shipped the famous frieze of the Parthenon from Athens to Britain. The “Elgin Marbles” went on display in the British Museum and remain in London to this day. The removal of Greek antiquities continued during much of the nineteenth century, though a sense of scholarly interest gradually replaced the love of collecting. By the end of

the century the archaeology of classical Greece was at last put on a more secure basis by large-scale excavations, both foreign and Greek-led, at Athens, Delos, Delphi, Corinth, and Olympia.

Egypt

Greece and Rome were in one sense accessible to Western scholars even before archaeology. Their writings—histories, literature, and plays—were in Greek and Latin, which could still be read. For other civilizations, however, access was more difficult since knowledge of both the languages and the scripts in which they had been written was lost. Decipherment, breaking the code of these forgotten writings, was a critical first step.

Decipherment played a transformative role in the exploration of the civilizations of Egypt, Mesopotamia, and Persia. The Greeks and Romans always considered Egypt as the cradle of human civilization. Roman tourists visited the Nile Valley, pausing to admire the Pyramids of Giza (see Box 4.1) and the temples of Thebes (Luxor). But few later travelers ventured to Egypt until the nineteenth century since it was an obscure province of the Ottoman Empire and effectively off-limits to Christians. The occasional traveler drew the pyramids or purchased powdery remains of Egyptian mummies, which were said to be a powerful medicine and aphrodisiac. Egyptian hieroglyphs and mummies caused intense interest in European scholarly circles because of the close association between the Land of the Pharaohs and the Old Testament. But it was not until Egypt assumed strategic importance during the Napoleonic Wars that Westerners finally became familiar with Egyptian civilization.

The immediate cause was the military expedition by Napoleon Bonaparte of France, who thought that control of Egypt would give him access to Britain's possessions in India. So he invaded the Nile Delta in 1798, wresting control of Egypt from its Ottoman governor. With characteristic thoroughness, Napoleon took with him a team of 160 scientists and technicians, known as "Napoleon's Donkeys," whose job was to record the geography, culture, and archaeology of the country. The scholars fanned out over the Nile Valley with pen and pencil—collecting, recording inscriptions, and sketching. They published their results in a magnificent multivolume work, *Description de l'Egypte* (1809–1822), which caused a sensation throughout Europe, influencing art and architecture and setting off a craze for

Egyptian antiquities in the Western world (Figure 1.3). The greatest discovery of all came at the hands of some soldiers building a fortification at Rosetta in the Egyptian delta. They uncovered a stone slab bearing parallel texts in Greek and in two versions of Egyptian script, which provided the key for the eventual decipherment of ancient Egyptian hieroglyphs by French scholar Jean-François Champollion in 1822.

FIGURE 1.3 Among the adventurers who descended on the Nile in the early nineteenth century was Giovanni Belzoni (1778–1823), a former circus strongman, seen here transporting a head of pharaoh Ramesses II to the Nile. Hirarchivum Press/Alamy Stock Photo

The *Description de l'Egypte* set the stage for more than a century of spectacular archaeological discoveries, culminating in the finding of the tomb of the New Kingdom pharaoh Tutankhamun by Howard Carter and Lord Carnarvon in 1922. Tutankhamun's tomb unleashed an epidemic of "Egyptomania," which has convulsed the world at intervals ever since. This

mania takes many forms: a preoccupation with golden pharaohs, with the mystical, with the alleged properties of pyramid power and ancient Egyptian religion, or with the curses of royal mummies immortalized in successive Hollywood movies. Ancient Egypt continues to captivate the popular imagination in ways that few other civilizations can equal.

Mesopotamian Civilizations: Assyrians and Sumerians

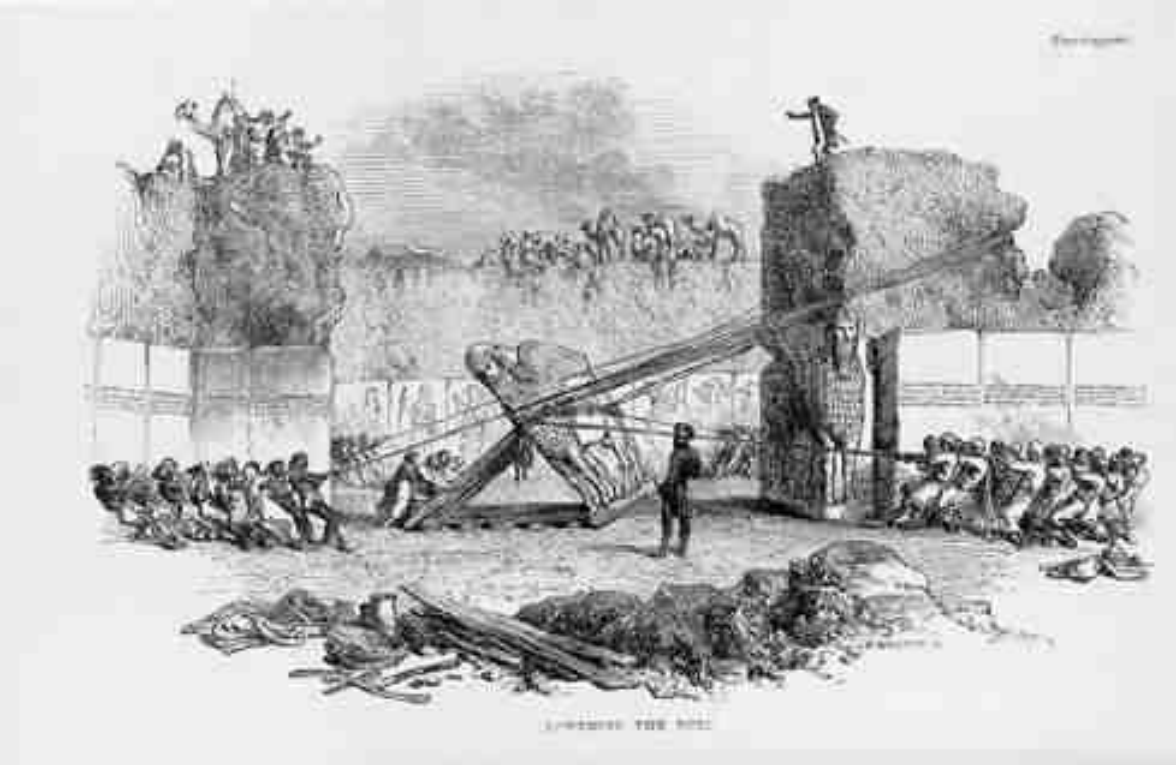
Among the greatest archaeological discoveries of the nineteenth century were those at Nimrud, Nineveh, and other ancient Mesopotamian cities. Until Frenchman Paul-Émile Botta and Englishman Austen Henry Layard dug into Nineveh in northern Iraq in the 1840s, however, the Assyrians of the Old Testament were only a shadowy presence on the historical stage. Layard, a young man with a taste for adventure and a hunger for fame and fortune, dreamed of romantic discoveries while standing atop the dusty mounds of Nineveh:

> *Visions of palaces underground, of gigantic monsters, of sculptured figures, and endless inscriptions, floated before me. After forming plan after plan for removing the earth, and extricating these treasures, I fancied myself wandering in a maze of chambers from which I could find no outlet. Then again, all was reburied, and I was standing on the grass-covered mound.*
>
> (Layard 1849, 111)

Layard worked first at Nimrud in 1845, and later, from 1849, at Nineveh (Figure 1.4). Meanwhile Botta had been appointed French consul to Mosul in 1840 specifically so he could dig at Nineveh, directly across the Tigris River, and acquire antiquities for the Louvre in Paris. He was also the first to unearth an Assyrian palace at nearby Khorsabad. Both men uncovered spectacular bas-reliefs of great kings and their courtiers, of armies marching out to conquest, of slaves laboring on great palaces, even of scenes from a royal lion hunt (already described) and the siege of Lachish in Israel, mentioned in II Kings 18:14. When a team of scholars, among them cavalry-officer-turned-linguist Henry Creswicke Rawlinson, deciphered cuneiform, the Mesopotamian script with its wedge-shaped characters, Layard could read King Sennacherib's boast before Lachish: "Sennacherib, mighty king, king of

the country of Assyria, sitting on the throne of judgement, before the city of Lachish. I gave orders for its slaughter." Layard's discoveries also included the royal archives of the Assyrian monarch Assurbanipal, which were to throw light on the origins of creation legends in the first chapter of Genesis.

FIGURE 1.4 Austen Henry Layard supervises the removal of a winged bull from an Assyrian palace at Nimrud in northern Iraq in 1847. DEA Picture Library/De Agostini/Getty Images



Although the clay tablets from Assurbanipal's library revealed the existence of a much earlier civilization in southern Mesopotamia, it was not until French diplomat Ernest de Sarzec excavated the Telloh mounds in 1877 that the existence of such an earlier urban society was confirmed. This "Sumerian" civilization, as it came to be known, did not catch the popular imagination until 1922, the year of the Tutankhamun discovery, when British archaeologist Leonard Woolley began digging at biblical Ur. His were large-scale excavations, directed by an archaeologist with a brilliant imagination and the ability to share his discoveries with a wide audience, not least because he was able to export the finest objects to museums in London and

Philadelphia. In 1926, he unearthed a huge Sumerian cemetery containing sixteen “royal” tombs and thousands of commoners’ graves. Working with shoe-string budgets, Woolley excavated a great death pit, where, he claimed, an entire royal court took poison and lay down to die with their mistress (though recent re-analysis of the remains suggests that their deaths to be less voluntary and more violent) (Figure 1.5). The Royal Graves at Ur caused almost as great a sensation as Tutankhamun’s tomb and stimulated a new level of interest in the first city-dwellers of southern Mesopotamia.

FIGURE 1.5 Reconstruction of the “Royal Grave” of Pu-abi at Ur in southern Iraq, excavated by Sir Leonard Woolley in 1922. Illustrated London News Ltd/Mary Evans.

Decades of persistent and dedicated work by archaeologists of many nationalities have assembled the rich picture of ancient Mesopotamian society that we possess today. Much still remains to be done, especially in less-well-studied areas such as Anatolia. It is salutary to reflect that the Hittites, one of the major peoples of ancient Southwest Asia, were hardly known until German excavations at Boghazköy, their capital, in 1906–1908. Subsequently, French discoveries at Mari on the Euphrates (from 1933);

Italian excavations at Ebla (from 1964); American investigations at Tell Leilan, Tell al-Raqa'i, and neighboring sites (from 1978); and British excavations at Tell Brak (1937–1938, resumed in 1976) have thrown new light on important early developments in northern Mesopotamia and Syria, away from the south Mesopotamian heartland. Such discoveries, and the promise of so much more as yet undiscovered history, make the terrible devastation and destruction that has been visited on the cultural patrimony in this region in recent years a distressing part of the human tragedy of these conflicts.

Greece and Crete: Minoans and Mycenaeans

The late nineteenth century also saw the first exploration of the Bronze Age civilizations of Greece and Crete, at the hands of some remarkable archaeologists, such as German millionaire businessman Heinrich Schliemann:

> *I am fatigued and have an immense desire to withdraw from excavations and to pass the rest of my life quietly. I feel I cannot stand any longer this tremendous work. Besides, wherever I hitherto put the spade into the ground, I always discovered new worlds for archaeology at Troy, Mycenae, Orchomenos, Tiryns—each of them has brought to light new wonders.*
>
> (Schliemann 1885, 22)

Obsessed since childhood with Greek legend, Schliemann retired from business in his forties and devoted the rest of his life to archaeology and to proving that Homer's poems, the *Iliad* and the *Odyssey*, were the literal historical truth.

Schliemann's main accomplishment lies in his excavations at the Hissarlik mound on the Dardanelles in modern Turkey, which both he and a local British resident named Frank Calvert identified as Homeric Troy. The aim was nothing less than the verification of Homeric legend, which told of a ten-year war led by the Bronze Age Greeks against the city of Troy at the mouth of the Dardanelles in modern Turkey. The story forms the background to the great epic poem the *Iliad*, written by Homer in the eighth century B.C. Schliemann and his Greek wife, Sophia, excavated Hissarlik on an enormous

scale in the early 1870s and uncovered no fewer than seven superimposed cities. He claimed that a thick layer of burnt masonry and ashes, the second city from the base, was the Homeric Troy destroyed by the Greeks. At first Schliemann scarcely understood the significance of what he had found at Troy, but most people were convinced (and remain so today) that he had indeed discovered the city described in the legend.

The Greek leader identified by Homer as the leader of the expedition to Troy was Agamemnon, king of Mycenae in southern Greece. Buoyed up by his successes at Hissarlik and convinced that Agamemnon was a real historical figure, Schliemann turned his attention across the Aegean to the site of Mycenae itself in 1874. There he discovered the spectacular Shaft Graves and the skeletons of nineteen men and women adorned with opulent jewelry and other offerings, some wearing golden masks (see Figure 9.7). Schliemann proclaimed to the world that he had found Agamemnon's grave. While that identification was premature and incorrect, he had had certainly uncovered Bronze Age Mycenaean civilization.

Greek legend also told of a shadowy early civilization on Crete, associated with a king named Minos. This had to wait longer than Mycenae for its rediscovery. The principal discovery was the palace of Knossos, its remains buried beneath a great mound of debris. English archaeologist Sir Arthur Evans was attracted to the site in the 1890s by carved Cretan seal-stones bearing a curious script, which he had purchased from antiquities dealers in the Athens flea market. Evans tracked down the source of these seal-stones to Knossos, and in 1900 began excavations there that were to continue at intervals for more than thirty years. He was not the first person to excavate at Knossos—a local Cretan scholar had worked there some years before—but with the greater resources available to him, he was the first to demonstrate the full significance of this important site. The palace was a confusing huddle of courtyard, staircases, storerooms, and small chambers, with residential areas and public rooms, often decorated with vivid friezes. Evans saw this as the labyrinthine residence of King Minos himself and named the civilization that it represented *Minoan*.

The Minoans traded with the Egyptians, with the Greek mainland, and with eastern Mediterranean states. From these contacts they learned of writing systems, and went on to develop their own, known as Linear A. Inscribed on clay tablets, Linear A seems to have recorded economic and administrative information, but the language used is otherwise unknown and

has never been deciphered. However, Knossos yielded many more tablets in a different and slightly later script, Linear B. To his eternal regret, Arthur Evans never deciphered Linear B either. It was only in 1953, twelve years after Evans's death, that Michael Ventris announced his discovery that some of the tablets represented an early form of Greek, and unlike Linear A could thus be deciphered. The reading of the Linear B tablets has thrown considerable light on the administration of the palace of Knossos in its latter days, as well as on Mycenaean palaces on the Greek mainland, which also used the script.

The Indus and East Asia

The archaeological discovery of early civilizations in South Asia and the Far East is the work of the twentieth century. Excavations by British and Indian archaeologists at the cities of Harappa and Mohenjo-daro in 1921 first revealed the existence of a hitherto unsuspected Bronze Age civilization in the Indus Valley of what is now Pakistan. Harappa and Mohenjo-daro have remained the best-known sites, but they are now recognized to be only two among over a dozen large settlements of the Indus civilization. Unfortunately, no one has yet succeeded in deciphering the enigmatic Indus script, which appears on square seal-stones and copper plates.

The 1920s were a key period in the investigation of early Chinese civilization, too. Chinese historical records of later periods spoke of a Shang dynasty, which had ruled northern China during the second millennium B.C. Little more was known of it, however, until 1899, when a collection of cattle shoulder blades bearing an early form of Chinese script was traced to the site of Anyang in the Huanghe valley. To that extent the story of the discovery parallels that of the Minoan civilization of Crete. In the Chinese case, however, the first excavations at Anyang had to wait until 1928. Once begun, under the direction of Chinese archaeologist Li Chi, they revealed an amazing record of wealthy royal graves and palace platforms, giving archaeological substance to the shadowy historical Shang. Work has continued at Anyang and other Shang centers up to the present day, illustrating the special character of this earliest Chinese state. Recent discoveries have also thrown light on developments in other regions of China, where distinctive regional traditions emerged in parallel with the Shang.

The Americas: Mesoamerica

Even as Paul-Émile Botta and Austen Henry Layard labored on Assyrian cities, Boston historian William Prescott was studying ancient American civilizations. He started with the accounts of Spanish conquistadors, who were astounded by the sophistication of Aztec civilization in the Mexican highlands.

> *When we saw so many cities and villages built in the water and other great towns on dry land and that straight and level causeway going towards Mexico [Tenochtitlán], we were amazed and said that it was like the enchantments they tell of in the legends of Aamadis, on account of the great towers<ds> . . . </ds>and buildings rising from the water, and all built of masonry. And some of our soldiers even asked whether the things we saw were not a dream.*
>
> (Bernal Díaz *True History of the Conquest of New Spain* (1568) 1963, 118)

So wrote conquistador Bernal Díaz of the Spaniards' first sight of the Aztec capital, Tenochtitlán. When Hernán Cortés and his soldiers arrived before Tenochtitlán in 1519, they were met with the sight not of an archaeological ruin but of a great preindustrial city in full vitality. Here was a Native American empire with architecture, writing, and metallurgy and with great temple-pyramids and organized systems of warfare, government, and taxation.

Unfortunately, Cortés and his men embarked on an orgy of destruction, which effectively banished Aztec civilization into historical oblivion. A colonial capital, Mexico City, rose on the ruins of Tenochtitlán, burying the great pre-Columbian city under urban sprawl. In the century following the fall of Tenochtitlan, a few Spanish priests gathered oral traditions and written accounts of the once-great civilization. Their researches have preserved a priceless, but alas incomplete, archive of Aztec culture for modern scholars.

The conquistadors were colonists and conquerors, people who came to the Americas to "serve God and get rich." Catholic friars destroyed Aztec cult objects and priceless written codices (illustrated documents) to obliterate all traces of "pagan" beliefs. Sympathetic study of the traditions and history of

the conquered peoples was not encouraged, unless it facilitated the colonial goals of conversion to Christianity and incorporation into the Spanish regime. It was not until the nineteenth century that both American and Mexican scholars probed historical and native sources and began to write not only about the Aztecs but also about much earlier Mesoamerican civilizations. William Prescott's romanticized masterpiece *The Conquest of Mexico* (1843) became a best-seller, the first account of early Mesoamerican civilizations based on both archival and archaeological sources. That he could use archaeology at all was because of two remarkable travelers, American lawyer John Lloyd Stephens and English artist Frederick Catherwood. Together they made two difficult journeys (1839–1840 and 1841–1842) into the jungles of lowland Mexico and Guatemala, visiting and drawing the ruins of Maya centers like Copán, Palenque, Chichen Itzá, and Uxmal. Catherwood was a brilliant artist, capable of producing pictures as accurate as photographs (Figure 1.6). Stephens was a vivid writer. Together, they published their discoveries in two disarmingly entitled volumes: *Incidents of Travel in Central America, Chiapas, and Yucatán* (1841) and *Incidents of Travel in Yucatán* (1843). These revealed the spectacular Maya civilization to an astonished world.

FIGURE 1.6 The Maya center at Uxmal in Mexico, painted by Frederick Catherwood in 1844. De Agostini/Getty Images.

Over the next forty years, explorers continued to visit the region, including characters such as Augustus Le Plongeon who created spectacular photographic records of Maya art and architecture while speculating that they originated from lost civilizations. British archaeologist Sir Alfred P. Maudslay produced the first general study of Maya archaeology in four volumes between 1889 and 1902. Part of this publication was a long appendix on Maya inscriptions, with illustrations by Annie G. Hunter. Excavation and interpretation of Maya sites have been major areas of archaeological research in the century since Maudsley, but the greatest breakthrough has been made only within the last fifty years, with the decipherment of Maya glyphs. It wasn't until the 1960s that Maya script was understood to record historical events, and the pace of decipherment really accelerated in the 1980s. The texts have now forced a complete reassessment of earlier understandings of Maya rulership and political organization, as it has become possible to read accounts of fierce warfare between rulers and cities, not unlike those of Mesopotamia or, indeed, many other parts of the ancient world.

The Americas: Peru

The Aztec capital of Tenochtitlán had been conquered a decade before, when another Spanish adventurer, Francisco Pizarro, encountered the Inka ruler Atahuallpa high in the Andes foothills in 1532. Pizarro and his small band of soldiers succeeded in capturing Atahuallpa, then held him for ransom against a roomful of gold. Although a steadfast resistance was maintained for decades by a small group of Inka nobles, the empire soon collapsed and the Spanish consolidated their rule. The Inka capital, Cusco, lay in the highlands, connected to all parts of the royal domains by a network of roads and couriers (Figure 1.7). The conquistadors stripped Cusco's temples of their gold and set out to obliterate all traces of a "pagan" civilization, just as their predecessors had done in Mexico. Only a handful of Spanish and native scholars preserved some memories of Inka civilization, but nothing like the rich material saved in Mesoamerica.

FIGURE 1.7 The capture of the Inka capital of Cusco in Peru in 1533, from an engraving published in Frankfurt in 1602. Scala, Florence/bpk, Bildagentur für Kunst, Kultur und Geschichte, Berlin.

Four centuries passed before scientists explored the spectacular Inka ruins of the Andes and even earlier monuments on the arid Peruvian coast. Two names stand out in particular: German scholar Max Uhle, who first revealed the time-depth of South American civilization in his excavations at Pachacamac on the southern Peruvian coast in 1896–1897; and the more famous Indiana Jones-like figure of the American scholar Hiram Bingham. Archaeologist and historian, Bingham set off from Cusco in July 1911 in search of the "lost city of Vilcabamba," the citadel where the Inka made their last stand against the Spanish. Instead, what he visited (a mere five days later!) was the ruins of Machu Picchu, a small but spectacularly preserved Inka hilltop town (see Figure 19.11). What had saved it from destruction was its remote setting. Only 97 kilometers (60 miles) from Cusco, it had never been found by the Spanish and had never suffered destruction at their hands. It was only when a local farmer led Bingham to Machu Picchu that the stunning ruins were revealed to the wider world.

The discovery of Machu Picchu stands as one of the last pioneer explorations of the ancient civilizations. Much still remains to be discovered, however—witness the spectacular finds of recent years, among them the Bronze Age shipwreck at Uluburun off the coast of southern Turkey, which contained artifacts from nine areas of Southwest Asia (Chapter 9). And when archaeologists working at Sipán in the Lambayeque Valley of northern coastal Peru unearthed a series of gold-laden Moche warrior-priest burials in 1989, they recovered the richest unlooted tombs ever excavated in the Americas (see Box 18.1).

Discoveries like those at Sipán and Uluburun are dramatic; they make the headlines and grab the popular imagination. But less-spectacular discoveries can be just as informative, if not more so. Royal burials and richly adorned palaces illuminate the lives of kings and queens, the privileged elites who ruled different civilizations. Sometimes the most telling clues come from the commonplace to find, from an obscure ancient inscription, or from a well-preserved hut floor. It is then that we learn about the commoners, the slaves, the humble artisans who lived out their lives in quiet anonymity, in the shadow of great rulers and sometimes world-changing events. The ancient civilizations were built on the labors of thousands of faceless people who tilled the land, built temples, created artistic masterpieces, and traveled long distances in the service of the state. Their lives come down to us in silent, dispassionate artifacts and food remains; in the foundations of small dwellings; and from the fills of storage pits. With the benefit of such insights into the everyday existence of ordinary individuals, archaeology presents a more balanced view of the societies that built the Pyramids of Giza, created the great Mexican city of Teotihuacán, and laid out royal mausolea in Southeast Asia that replicated the mythic Hindu world.

THE THREAT TO ANCIENT CIVILIZATIONS

Such architectural masterpieces, built by long-dead hands, are the common cultural heritage of us all. But they are constantly under threat from unscrupulous looters and industrial development, from the ravages of civil war and air pollution, and from the busy feet of package tourists. The ancient civilizations are under siege from modern society in ways that we may sometimes be powerless to control.

Tragically, much of the damage is deliberate—for example, the stripping of sites and burials of fine artworks and inscriptions by professional looters to feed the insatiable maw of the international antiquities market. As long as some wealthy individuals in the industrialized nations are prepared to pay high prices for ancient artworks without concern for provenance or legality, there will continue to be those prepared to dig into unrecorded sites, to burgle museums, and to cut away fragments of standing monuments in order to sell them. The loss to archaeology, and to world heritage in general, is incalculable.

Recent conflict in Syria, Iraq, and Afghanistan has also had significant impact on the archaeology of those countries. Archaeological remains are covered by the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, and archaeologists are sometimes able to work with military forces to identify sites at risk and prevent or minimize damage. When law and order break down, however, the remains of the past are immediately at risk from pillage and destruction. Analysis of satellite imagery has shown increased levels of looting at archaeological sites in Egypt from 2009, at the time of the global economic crisis, and particularly after the civil disturbances associated with the Arab Spring in 2011. Some of the material found its way onto the international antiquities market. The lack of digital records or imagery of material held in many museums has made it difficult for the legitimate authorities to identify and recover items that have been stolen. The problem becomes even more acute in the case of archaeological sites where heavy machinery has sometimes been used to recover saleable objects, with no regard to the damage caused to buried buildings and structures, nor to the priceless information that can be gained from a proper study of the contexts of these discoveries. Increased looting of archaeological sites was one consequence of the recent conflict in Iraq and Syria. Sales of antiquities were used to fund insurrection, but coupled with this was the public destruction of famous archaeological sites and monuments for ideological and propaganda purposes. In 2014, for example, the forces of the so-called “Islamic State” captured the city of Mosul in northern Iraq. A few months later, video footage showed the wanton destruction of priceless Assyrian sculptures and relief carvings from the palaces at Nimrud, on the outskirts of the modern city. The desert city of Palmyra, with its elegant colonnaded main streets, suffered similar intentional damage under Islamic State control (Figure 1.8). This was not the first time in recent decades that

such destruction had occurred. In 2001, the Taliban in Afghanistan dynamited the famous rock-cut Buddha statues at Bamiyan, considered by many to be one of the wonders of the ancient world. Such public acts of cultural destruction are testimony to the power and significance that the remains of ancient civilizations still hold today, and to their intrinsic vulnerability.

FIGURE 1.8 Damaged remains of the ancient desert city of Palmyra in Syria, recaptured from so-called Islamic State in April 2016. Xinhua/Alamy Stock Photo.

Summary

In this chapter we have considered alternative meanings of the term *civilization* and have seen how it must be divorced from ideas of cultural progress or superiority. Early civilizations share many important features, including urbanization and state-level sociopolitical organization. Other features, such as writing and metallurgy, are common but not universal to

early civilizations. The rediscovery of early civilizations has been a gradual process, beginning in the sixteenth century with the European Renaissance and the arrival of Spanish conquistadors in the New World. Discoveries such as the tomb of Tutankhamun, the Royal Graves at Ur, and the Moche Lords of Sipán kept civilizations in the headlines throughout the twentieth century, but looting and destruction cast a shadow of concern over the future fate of many of the major sites and monuments.

Note

1. Archaeologists conventionally use the term *Andean* to describe the culture area encompassing highland and lowland Peru and adjacent areas where civilization developed in South America. *Mesoamerica* refers to that area of highland and lowland Central America from Mexico to Guatemala where civilization developed.

CHAPTER 2

Theories of States

FIGURE 2.0 The goddess Ma'at, goddess of Truth and Harmony, spreads her protective wings in Queen Nefertari's tomb in the Valley of the Queens in southern Egypt. Dynasty XIX, 1198 B.C. Scala, Florence—courtesy of the Ministero Beni e Att. Culturali.

A.D. 1487: The long line of brightly adorned prisoners of war ascends the steep stairway step by step, toward the twin shrines on the summit atop the Great Pyramid in the heart of the Aztec capital, Tenochtitlán. The captured warriors look neither to the left nor to the right, some walking boldly upright, others going unwillingly to their sacrificial death. The noise of the vast crowd below envelops them and masks the beating of drums atop the pyramid. As each victim steps on the summit platform, four masked priests spread-eagle him across a convex sacrificial stone. Before he can cry out, a lightning blow of a razor-sharp obsidian knife breaks open his chest. A priest tears the still-beating heart out of the bleeding cavity and dashes the bloody mess against the image of the sun god, Huitzilopochtli, close by. As a new victim steps to his death, the still-warm corpse tumbles down the side of the pyramid to waiting priests below. A few minutes later, the victim's head joins hundreds

of others on the skull rack within the sacred precincts. Such was the Flowery Death of the Aztec warrior, which allowed the slain victim to join the sun god in his daily journey across the heavens.

CHAPTER OUTLINE

Historical and Anthropological Perspectives
- *Evolutionary Schemes*
- *Non-state and State-Organized Societies*
- *Chiefdoms*
- *Settlement Hierarchy*

Four Classic Theories for the Emergence of State Societies
- *Childe and the Urban Revolution*
- *Irrigation*
- *Technology and Trade*
- *Warfare*

Coercive Power versus Collective Action
Cultural Systems and Civilization
Ecological Theories
Social Theories
- *Power in Three Domains*
- *Ideology and Power*
- *Individuals and Gender*

Cycling Chiefdoms: Processes and Agents
The Collapse of Civilizations
Civilization and Sustainability
Western and Indigenous Science

In A.D. 1519, Spanish conquistador Hernán Cortés and a small band of adventurers fought and blustered their way inland from the Gulf of Mexico into the Mexican highlands. In pursuit of gold and status, the indigenous peoples they encountered told them of the wealthy and powerful kingdom of the Mexica—what we now call the Aztec Empire. Many of these native peoples allied themselves with the conquistadors in an effort to throw off the

yolk of the powerful Aztec state. When Cortés and his companions finally descended from the volcanic mountains into the Valley of Mexico, they gazed spellbound at a landscape filled with cities, and at its heart the great capital of the Aztecs: Tenochtitlán, the “Place of the Prickly Pear Cactus on the Rocks.” High pyramids and multicolored temples gleamed in the sunlight, dwarfing human figures on the plazas beneath. Tenochtitlán lay on an island in the shallow waters of a lake in the valley of Mexico, joined to the mainland by earthen causeways. A quarter of a million people lived in or around the Aztec capital. Twenty thousand people every day, many more on formal market days, visited its vast market in the conjoined city of Tlatelolco, larger than that of Seville or Constantinople. The Spaniards marveled at the well-ordered city. Welcomed into the city by the emperor Motecuhzoma, Cortés took it upon himself to climb to the summit of the city’s most sacred precinct, the Templo Mayor, where the shrines of Huitzilopochtli, patron deity of the Mexica, and Tlaloc, the deity of rain, sat side by side. Here they found the great figures of the gods hung with precious ornaments. Braziers smoked with copal incense and the hearts of three human victims sacrificed that very day. “All the walls of that shrine were so splashed and caked with blood that they and the floor too were black,” wrote conquistador Bernal Díaz. He recalled how the eyes of the figures glinted with semiprecious stones. Human sacrifice was a central practice of Aztec religion, for blood fed the gods and repaid primordial debts to these deities (Figure 2.1).

FIGURE 2.1 Aztec warriors and their prisoners. These richly caparisoned warriors were an elite class in Aztec society, rising through the ranks by capturing enemies on the field. Many of their prisoners (seen here) perished on temple altars. Universal History Archive/Getty Images.

Cortés and his followers were among the last Europeans to witness a Native American civilization at the height of its powers. The Aztecs lived under the rule of a remote leader, Motecuhzoma, who was considered nearly

divine. Divided into rigid social classes, the Aztecs were taught from birth the roles and obligations expected of them by their communities. Great economic, political, and religious power flowed to the ruler and a tiny class of nobles, priests, and high officials. Everyone learned that they were on earth to serve the state and divinities such as Huitzilopochtli, and that sacrifice—even the ultimate sacrifice of human lives—was required to sustain the world. Like many other ancient civilizations, the Aztecs believed there was a continuum between the realm of the living and that of the spiritual world. Yet, as different as their worldview and religious practices may seem to readers today, and as perhaps initially they seemed to the Spanish, there were profound similarities in political organization and understandings of social and economic hierarchies that bridge the divide between all people living in societies organized as states. The lavish courtly life of Motecuhzoma was strikingly recognizable to Cortés, who after all represented a growing Spanish empire with its own magnificent court, and a rigid system of titles, landed estates, and military rewards. Spain, at the time wracked by the religious mania of the Inquisition, was also no stranger to bloody rituals and profound religious fervor. It is clear, too, that Motecuhzoma recognized Cortés as the ambassador of a mighty ruler of a familiar type.

This chapter surveys some of the theories of the origin of states and the major factors that may have contributed to the rise of civilizations and the commonalities that may link them across time, space, and cultural divides.

HISTORICAL AND ANTHROPOLOGICAL PERSPECTIVES

In Chapter 1, we described some of the common attributes of early civilizations. But why did civilizations, complex human societies, appear in the first place and why did they collapse with often bewildering rapidity? Recent generations of anthropologists and historians, drawing on research in many parts of the world, have built on the work of their predecessors but also developed significant new perspectives. The views of civilization of earlier generations, based on a detailed but often limited study of Western history, have given way to more multidisciplinary, global syntheses, which view civilizations against a background of fluctuating growth, shifting centers of civilization, and their multiplicity of peoples and cultures.

Evolutionary Schemes

While historians think in terms of civilizations, archaeologists and anthropologists use a different approach and a terminology that emphasizes a significant increase in social complexity as a conspicuous feature of preindustrial civilization. Thus, they tend to stress social and political organization, to speak of "states" and "complex societies," and to look at the development of civilization in the context of many other forms of human societies and through an evolutionary perspective. Archaeology is the only scientific way of studying cultural change over far longer periods of time than the mere 5,000 years of civilization in Southwest Asia. Thus, the excavator's spade, combined with sophisticated archaeological theory, plays a fundamental role in the debate over the origin of civilization. Such research focuses on both description of the past and reconstruction of ancient lifeways but, most important, seeks to explain the dynamics of how the world's first states came into being—what archaeologists commonly call "cultural process." With its emphasis on the study of culture change and with its long-time perspective, archaeology lies at the very core of the study of early civilization.

The pages that follow describe some of the major anthropological approaches to the origins of the state and some of the factors that contributed to their subsequent growth.

Non-state and State-Organized Societies

Anthropologists and archaeologists have long been interested in the origins of civilization, believing that human societies have developed along many branches, without a predestined end. Such "multilinear evolution" at a general level is a fundamental tenet of most anthropological theorizing about the origin of states, and it rests on the assumption that the roots of all preindustrial civilizations lie in earlier and simpler societies, that in many respects resembled the "traditional" non-state societies of recent times. This assumption led to a widely used classification of human societies into non-state (bands, tribes, and chiefdoms) and state-organized societies (civilizations).

Non-state societies are societies that are small in scale, based on the community, band, or village. They vary greatly in their degree of political

integration and are traditionally divided into three categories:

- *Bands* are autonomous and self-sufficient groups that usually consist of only a few families. They are egalitarian, with leadership coming from the experience and personal qualities of particular individuals rather than from political power.
- *Tribes* are relatively egalitarian societies but with a greater level of social and cultural complexity. They have developed kin-based mechanisms to accommodate more sedentary living, to redistribute food, and to organize some communal services. In egalitarian societies, public opinion plays a major role in decision making. While some of the more complex tribal societies like the Pacific Northwest groups were hunter-gatherers, most were associated with village farming.
- *Chiefdoms* are societies headed by individuals with unusual ritual, political, or entrepreneurial skills and are often hard to distinguish from tribes. Society is still kin-based but more hierarchical, with control concentrated in the hands of powerful kin leaders responsible for the redistribution of food, luxury goods, and other resources. Chiefdoms tend to have high population densities and to display the first signs of social ranking, reflected in more elaborate material possessions. They vary greatly in their elaboration depending on many factors, including the distribution of population over the landscape. Classic examples include the Tahitian and Hawaiian chiefdoms of the Pacific and the elaborate Mississippian chiefdoms of the American Midwest and South, which flourished about 1,000 years ago, maintaining trade networks and ritual contacts over long distances.

State-organized societies (civilizations) operate on a large scale, with centralized social and political organization, class stratification, and intensive agriculture. They have complex political structures and many permanent government institutions, and they are based on social inequality, with a small ruling class presiding over the state.

Inevitably this loosely defined taxonomy of human societies led to assumptions of a unilinear progression in which bands became tribes, which, in turn, gave way to chiefdoms. Chiefdoms, the most elaborate non-state societies, had then evolved into states in some parts of the world. For more than thirty years, this “stepladder” model has prevailed as a general

assumption, almost without challenge. Recently the stepladder, with its emphasis on chiefdoms, has been subjected to significant reconsideration.

Chiefdoms

The label *chiefdom* has been widely used to describe the somewhat less than egalitarian societies that immediately preceded states all over the world. Such a label allowed for comparative studies, but the definition of what constitutes a chiefdom has changed markedly since it was first proposed. Chiefdoms are kin-based societies headed by hereditary chiefs, often priest chiefs who have a title but little authority except as a master of ceremonies and as a redistributor of goods. They listen carefully to public opinion when wielding their limited powers.

Archaeologists have made wide use of chiefdoms because of a chief's perceived importance in the redistribution of trade goods, food, and other resources throughout society. But many archaeologists disagree and minimize the importance of redistribution; as archaeologist Timothy Earle found with Hawaiian chiefdoms, the chief's major role was as a landowner and supervisor of the labor of the commoners who worked his acreage as dependents. In short, the chiefdom is a political unit, not a mechanism for redistribution. Under this rubric, the chiefdom was a political breakthrough, the moment when the local autonomy characteristic of bands and tribal societies gave way to a new form of authority in which a single important individual controls a number of communities. Thus, the chiefdom was an early stage in the rise of states, a society headed by an individual who ruled over a regional population of thousands and controlled the production of staples and the acquisition of exotic objects.

In recent years, the chiefdom has received further refinement with a subdivision into simple chiefdoms, which rely on kin lines, and complex chiefdoms, in which there is a regional hierarchy of a paramount chief and lesser chieftains. The former have centralized decision making for mobilizing resources, whereas the latter enjoy considerable autonomy over their own subordinate communities. Thus, argue proponents of complex chiefdoms, the paramount chief has external authority to organize the acquisition of resources, but internally there is no complex bureaucracy to administer food surpluses and the distribution and storage of resources. Thus, society is divided into nobles and commoners, with the nobility competing with one

another for leadership, prestige, and religious authority. But without a bureaucracy, a standing army, and other means to enforce control of goods on a long-term basis, the chiefdom is a volatile, ever-changing form of society in a condition of constant rebellion, breakdown, and flux. Nevertheless, chiefdoms are important since they apparently provide a political stepping-stone toward the centralized state, with its much denser population, infinitely larger food surpluses, and new systems for administering society.

This political view of the chiefdom has been criticized for diverting attention from the trends toward economic and social differentiation, which were a vital part of the early stages of development of the state. These developments can be clearly seen in Mesopotamia (Chapter 3), predynastic Egypt (Chapter 4), and lowland Mesoamerica (Chapter 15). Norman Yoffee, himself an authority on ancient Mesopotamia, believes the ladderlike chiefdom stage as a predecessor to the state is meaningless. For example, Yoffee points out that nothing in the archaeological and historical record suggests that pre-Sumerian cultures in the region were organized as chiefdoms in the sense suggested by the evolutionists. Rather, records speak of ongoing competition for power between kin groups and centralized institutions, as a rapid, large-scale process of urbanization took place just before 3000 B.C. This process brought profound changes in the division of labor, in the organization of the countryside for intensive agriculture, and in unparalleled opportunities for acquiring wealth for a few at the expense of most members of society. Early archives refer to councils of elders, who played a vital role in city-state affairs, for power was vested in communities, not in chiefs. The evolving relationship between the growing power of priests and rulers and the community-based structures of earlier times is a major theme in state formation in this area. Yoffee believes that the emergence of non-kin-based relationships between the rulers and the ruled was the critical departure point for the state. This, not chiefdoms, was the power that provided the ingredients of enforceable authority and more than short-term stability.

Settlement Hierarchy

A defining feature of state-level societies is their hierarchical social structure, and many archaeologists have sought to find a parallel hierarchy on the ground, in terms of settlement organization. These approaches start by

dividing settlements into four types: cities, towns, large villages, and small villages. In direct analogy with theories of social evolution, proponents of the settlement hierarchy approach hold that complex non-state societies may display three types of settlements—towns, large villages, and small villages—while the transition to statehood is marked by the appearance of cities. In such a hierarchy, the city will be the focus of centralized government, possessing a palace, administrative buildings, and major temples, whereas towns and large villages would have the offices of delegated authority, such as regional governors or village elders. Small villages might be expected to have no public buildings of any kind.

Four-tiered hierarchies of these kinds can be documented among the remains of early state societies by careful field survey, such as those carried out by Robert McC. Adams and his team in southern Mesopotamia during the 1960s. When textual information is added in, however, the historical reality is rarely as simple as the four-tier scheme would suggest. Thus as Kent Flannery has observed for one particular polity in Mesopotamia, the state of Lagash, archaeology reveals that it contained not one but three cities, along with more than twenty towns and at least forty villages. The degree of variability in settlement types and sizes, and their spatial arrangement, can nonetheless be a useful pointer to the scale and complexity of the social unit concerned and to the presence or absence of a state.

FOUR CLASSIC THEORIES FOR THE EMERGENCE OF STATE SOCIETIES

Everyone who has studied the early human past agrees that the emergence of civilization in different parts of the world was a major development in our history. From 3 million to about 10,000 years ago, all humankind lived by hunting animals and foraging for plant foods. As the Ice Age ended about 10,000 years ago, global warming caused major changes in the world's environments, as glaciers shrank, sea levels rose, and forests spread to cover open tundra. Humanity is adapted by developing increasingly specialized ways of gathering and hunting and, in some areas, by deliberately planting wild grasses to supplement existing food resources. By 8000 B.C., wheat and barley were being cultivated in Southwest Asia and goats and sheep were being domesticated from wild forms. The new farming economies spread rapidly, and new centers of domestication arose in other parts of the world.

By 5000 B.C., agricultural communities flourished throughout Southwest Asia, in South and East Asia, and in Europe. Villages with domestic plants and animals emerged independently in China by 7000 B.C., in Southeast Asia by 3000 B.C., and in Mesoamerica by 2600 B.C. This dramatic although sometimes gradual transformation from foraging to farming set the stage for the development of the first preindustrial civilizations in widely separate areas of the world.

In Chapter 1, we defined civilization as a shorthand for urbanized, state-level societies. But what common attributes separate civilizations from other ancient societies? Some have argued that each civilization was unique, and that each of them evolved in a different way. As Justin Jennings has observed, "processes like urbanization, state formation, colonization, and the spread of cultural horizons unfold across decades, and we also realize that these processes are not necessarily linked together in a single shift to civilization." There has hence arisen an argument that each can be understood only in its own terms. To some degree, we seek to do that in the chapters that follow, where we trace the rise and fall of early state societies within their individual circumstances. It is very clear that they did not all follow the same path toward social complexity. That does not obscure the fact that alongside their many variations, preindustrial civilizations often display a number of prominent shared features, and cross-cultural comparisons may allow for rich insights. Among these common concepts are:

- Urbanized societies, based on cities, with large, highly complex social organizations. Preindustrial civilization could range in geographical scale from the relatively small city-states of Classical Greece or the Classic period Maya to the grander scope of Egypt and the Nile Valley or early imperial China.
- Economies based on the centralized accumulation of capital and social status through tribute and taxation. This type of economy allows the support of hundreds, often thousands, of nonfood producers such as smiths and priests. Long-distance trade and the division of labor, as well as craft specialization, are often characteristic of early civilizations.
- Advances toward formal record-keeping, science, and mathematics and some form of written script. This took many forms, from Egyptian hieroglyphs to the knotted strings used by the Inka of the Andes.

- Impressive public buildings and monumental architecture, like Maya ceremonial centers and Roman temples.
- Some form of dominant state religion in which the ruler plays a leading role. The Khmer of Cambodia, for example, considered their leaders to be living gods, and were buried in temples built as symbolic depictions of Mount Meru, home of the Hindu gods.

How, then, did such societies develop? We will now survey four widely discussed theories, which identify some of the key factors involved: Childe and the Urban Revolution, Irrigation, Technology and Trade, and Warfare.

Childe and the Urban Revolution

Nineteenth-century scholars believed passionately in the notion of human progress, in hierarchical forms of cultural evolution that placed modern industrial civilization at the pinnacle of human achievement. Humanity, they believed, had evolved at different rates in various parts of the world, progressing from simple hunting and gathering toward the full realization of human potential. Like the Greeks and Romans before them, they assumed that civilization had originated along the Nile, in the Land of the Pharaohs. This began to change with the discovery of the Sumerian civilization in southern Mesopotamia in the 1870s. Eventually, early theorizing took in a broader canvas, embracing all of Southwest Asia. In the 1920s, American archaeologist James Breasted coined the enduring phrase “the Fertile Crescent,” a curve of territory that encompassed the Judean Hills, the Zagros Mountains, and lower Mesopotamia (see Figure 3.1). The Fertile Crescent was the cradle of early civilization, the place of origin of the first complex societies in the world.

The first systematic theories about the origins of civilization were formulated by Australian-born archaeologist Gordon Childe (1892–1957). Childe claimed that a “Neolithic Revolution,” which witnessed the beginnings of farming, was followed by an “Urban Revolution.” (Neolithic is a widely used, general label in the Old World that refers to early—Stone Age—farmers who did not have metal tools.) He theorized that this second revolution saw the development of metallurgy and the appearance of a new social class of full-time artisans and specialists who lived in much larger settlements, that is, cities. Among the Sumerians of Mesopotamia, for

example, Childe believed that the new specialists were fed by food surpluses raised by peasant farmers. But the artisans' products had to be distributed and raw materials obtained, often from great distances. Both needs reduced the self-sufficiency of peasant communities, Childe argued. Agricultural techniques became more sophisticated as a higher yield of food per capita was needed to support a growing nonagricultural population. Irrigation increased productivity, leading to the centralization of food supplies, production, and distribution. Taxation and tribute led to the accumulation of capital. Ultimately, said Childe, a new class-stratified society came into being, based on economic classes rather than traditional ties of kin. Writing was essential for keeping records and for developing exact and predictive sciences. Transportation by land and water was part of the new order. A unifying religious force dominated urban life as priest-kings and despots rose to power. Monumental architecture testified to their activities.

Childe considered technology and the development of craft specialization in the hands of full-time artisans a cornerstone of the Urban Revolution. Seventy years later, most archaeologists associate craft specialization with cultural complexity, to the point that many equate the appearance of specialist artisans with the formation of states. Thus, goes the argument, evidence of increased levels of craft specialization thereafter indicates even further cultural complexity. This perspective has been challenged by scholars who point out that craft specialization is a feature of many more-egalitarian societies. Many chiefs, ruling over chiefdoms large and small, patronized specialists who produced prestige goods and artifacts, like canoes, that needed unusual skills. Another theory considers craft specialization to be the fate of peasant farmers disenfranchised from their lands as states expanded and cities grew.

Childe's "Urban Revolution" theory enjoyed widespread popularity between the 1930s and 1950s. It was a logical synthesis of complex events at a time when relatively little was known about early civilization in Southwest Asia and even less about complex states in China, South Asia, and the Americas. But the revolution hypothesis has serious flaws. For example, craft specialization is more a symptom than a cause of state formation and is not unique to civilizations. Furthermore, predicating state and city formation on surplus production does not explain why surpluses came about in the first place.

Robert McC. Adams and other Mesopotamian archaeologists argued in the 1960s that the term Urban Revolution puts undue emphasis on the city at the expense of social change, that is, the development of social classes and political institutions. Adams pointed out that both early Mesopotamian and American civilizations followed a basically similar course of development in which kin groups, who controlled land communally, were replaced by the growth of private estates owned by noble families. The eventual result was a stratified form of social organization rigidly divided along class lines.

Irrigation

Most scholars now agree that three elements of Childe's "Urban Revolution" were of great importance in the development of all the world's early civilizations: large food surpluses, diversified farming economies, and irrigation agriculture. Early ecological theories revolved around these three broad themes.

1. *River floodplains, with their rich, fertile soils, contained great ecological potential.*

   Breasted's Fertile Crescent hypothesis assumed that the exceptional fertility of the Mesopotamian floodplain and the Nile Valley was the primary cause for the appearance of cities and states in these regions. Larger grain surpluses over and above basic subsistence and storage needs resulted from increased agricultural efficiency, as did social and cultural changes. The extra food supported nonfood producers such as artisans, priests, and traders, who made up new classes of society that were the backbone of state-organized societies.

   Some scholars, among them the economist Ester Boserup, took the opposite tack. They argued that population growth, not food surplus, was the incentive for people to develop new technologies, allowing them to intensify agriculture and eventually support more complex societies. Following Boserup, others have argued that agricultural systems, such as those in early Mesopotamia or along the banks of the Nile River (where annual floods inundated the fields), tended to be more intensive and to exploit the environment in a more ordered and systematic way. They created conditions in which more settlements per square mile could exist on foods whose annual yields were at least

roughly predictable. The more specialized ecosystems created by these efforts supported more concentrated, rapidly growing populations, and thus civilization. But, though important, dense populations did not characterize all state-organized societies, as the Mycenaean or Inka civilizations show.

2. *Other civilizations developed in areas of ecological diversity, where differences in altitude, access to food and other resources, and soil fertility varied greatly from one area to another. The resulting diversity of food resources protected the people against famine and stimulated trade and exchange for food and other products, as did the growth of distributive organizations that encouraged centralized authority.*

   Diversified agricultural economies tended to focus on fewer, more productive crops, but the ultimate subsistence base remained wide. The Egyptians farmed wheat and barley on a large scale but also raised large herds of cattle and goats, for example. The earliest civilizations in the Old World and the New were certainly based on complex subsistence patterns, which integrated several ecological zones. For instance, the highland Andean states relied heavily on their lowland neighbors for fish meal, cotton, and other resources. The communities of the Indus civilization may have exchanged cotton for semiprecious stones, while highland and lowland Mesoamerican civilizations depended on one another for all manner of commodities, foodstuffs, and artifacts. In these circumstances, a local center might control products from several nearby ecological zones, giving it a hedge against crop failure and famine that was vital for managing and controlling food surpluses.

3. *The adoption of irrigation agriculture was a major factor in the rise of civilization, as it supported far higher population densities.*

   Early ecological theories were closely tied to the apparent widespread use of irrigation agriculture by early states to enhance agricultural output. The intensification of agriculture implies major modification of the environment, which usually means irrigation—the development of canals and other works for storing water and watering fields during dry months. Irrigation theories were popular during the 1950s, when anthropologist Julian Steward and historian Karl Wittfogel argued that irrigation lay behind the development of socially stratified societies in Egypt, Mesopotamia, and elsewhere. Wittfogel famously coined the term “hydraulic civilizations” for those societies he believed

to result from elite control of irrigation agriculture. In areas where irrigation was practiced, both scholars argued, the relationship among the environment, food production, and social institutions was identical. Wittfogel was a specialist on China, who believed that early Asian civilizations became "mighty hydraulic bureaucracies," which owed their despotic control over densely populated areas like China, Egypt, and India to the technological and environmental demands of large-scale water-control projects in areas of scant rainfall. The state bureaucracy controlled the labor forces that built hydraulic works and maintained them. Thus, the social requirements of irrigation led to the development of states and urban societies in several parts of the Old World, and the same requirements led to remarkable similarities in their economic and social structure.

Wittfogel's arguments were originally formulated in the 1920s and refined over more than thirty years, during which time a mass of new data, including large-scale landscape surveys, sharpened our perceptions of early irrigation. For example, archaeologist Robert McC. Adams carried out major field surveys of ancient irrigation systems in Mesopotamia in the 1960s. Adams found that early Mesopotamian irrigation consisted simply of cleaning out natural river channels and building a few smaller feeder canals. Most settlements lay near major rivers and made the most of the natural waterways. Each community controlled its own small-scale irrigation system. Only centuries later did a highly centralized state government organize co-ordinated irrigation schemes on a massive scale. The same was true of Egypt, where the greatest irrigation works were undertaken during the New Kingdom— a thousand years after the construction of the Great Pyramid at Giza—using thousands of laborers who were fulfilling tax obligations to the state. In contrast, early Egyptian agriculture relied on natural basins to hold back water as the annual Nile flood receded—a village-level, small-scale operation that needed no official supervision (Figure 2.2). Large-scale irrigation requires constant maintenance and supervision, to say nothing of political stability and control of water sources. For example, the Chimor state on the Peruvian coast was overthrown by the expanding Inka Empire, partly because the latter acquired control of the watersheds that fed coastal irrigation schemes (Chapter 19).

While some form of irrigation was a necessary precondition for the settlement of the southern Mesopotamian plains, where the world's first cities arose, large-scale irrigation does not everywhere appear to have been a factor in the rise of early civilization. By the same token, modern studies have shown that ecology was only one component in a mosaic of many changes that led to state-organized societies. But climate may have been of particular significance in some areas in view of the major environmental changes, especially shifts in rainfall patterns and rising sea levels, which affected the world during post-Ice Age global warming.

Technology and Trade

The origins and evolution of complex societies have long been linked to technological innovation and to growing trade in raw materials like obsidian (volcanic glass used for stone tools, mirrors, and ornaments), copper, and luxury products of all kinds. Gordon Childe considered metallurgy an important component in the Urban Revolution, but in fact, copper and other exotic materials were at first used in Southwest Asia for small-scale production of cult objects and jewelry. In many cases the technological innovations that did appear, like the wheel in Mesopotamia and the sailing ship in Egypt, were of more benefit in transportation than in production. Not until several centuries after civilization started did copper and bronze become more abundant as demands for transportation and military needs burgeoned. Technology did evolve, but only in response to developing markets, new demands, and the expanded needs of a tiny segment of the population—the elite.

Any form of trade involves two elements: the commodities being exchanged and the people doing the exchanging. People make connections and create exchange systems that handle trade goods, for instance, gold dust or copper ore, when they need to acquire goods and services that are not available to them within their own local area. This trade (more conventionally called "exchange") can involve gift giving, that is, the exchange of gifts that reinforces a social relationship between both individuals and groups as a whole. The gifts serve as gestures that place obligations on both parties. This kind of exchange is commonplace in New Guinea and the Pacific and was widespread in Africa during the past 2,000 years. Bartering was a basic

trading mechanism for many thousands of years; often sporadic and usually based on notions of reciprocity, it involved the mutual exchange of commodities or objects between individuals and groups. Redistribution of these goods through society lay in the hands of chiefs, religious leaders, or kin groups. As we have seen, such redistribution was a basic element in chiefdoms. The change from redistribution to formal trade—often based on regulated commerce that perhaps involved fixed prices and even currency—was closely tied to growing political and social complexity and hence to the development of the state.

In the 1970s, a number of archaeologists gave trade a primary role in the rise of states. British archaeologist Colin Renfrew attributed the dramatic flowering of Minoan civilization on Crete and through the Aegean to intensified trading contacts and to the impact of olive and vine cultivation on local communities. As agricultural economies became more diversified and local food supplies could be purchased both locally and over longer distances, a far-reaching economic interdependence resulted. Eventually, this led to redistribution systems for luxuries and basic commodities, systems that were organized and controlled by Minoan palaces and elsewhere in the Aegean where there were major centers of olive production. As time went on, the self-sufficiency of communities was replaced by mutual interdependence. Interest in long-distance trade brought about some cultural homogeneity from commerce, gift exchange, and perhaps piracy. Thus, intensified trade and interaction and the flowering of specialist crafts, in a complex process of positive feedback, led to much more complex societies based on palaces, which were the economic hubs of a new Minoan civilization. Renfrew's model made some assumptions that are now discounted (see Chapter 9). For example, he argued that the introduction of domesticated vines and olives in the Early Bronze Age allowed a substantial expansion in the amounts of land under cultivation and helped to power the emergence of a complex society. Many archaeologists and paleobotanists now question this view, pointing out that available evidence for cultivated vines and olives suggests that they were present only in the later Bronze Age. Trade, nevertheless, was probably one of many variables that led to the emergence of palace economies in Minoan Crete.

American archaeologist William Rathje developed a hypothesis that considered an explosion in long-distance exchange to be a fundamental cause of Maya civilization. He suggested that the lowland Maya environment was

deficient in many vital resources, among them obsidian, salt, stone for grinding maize, and many luxury materials. All these could be obtained from the nearby highlands, from the Valley of Mexico, and from other regions, if the necessary trading networks came into being. Such connections, and the trading expeditions to maintain them, could not be organized by individual villages alone. Rathje argued that the Maya lived in a relatively uniform environment, where every community suffered from the same resource deficiencies. Thus, long-distance trade networks were organized through local ceremonial centers and their leaders. In time, this organization became a state, and knowledge of its functioning was exportable, as were pottery, tropical bird feathers, specialized stone materials, and other local commodities. Rathje's hypothesis probably explains part of the complex process of Maya state formation, but it suffers from the objection that suitable alternative raw materials can be found in the lowlands and we now understand there to have been a greater range of environmental variability than Rathje appreciated. It could be, too, that warfare became a competitive response to population growth and the increasing scarcity of prime agricultural land, and thus played an important role in the emergence of Maya states.

Now that we know much more about ancient exchange and commerce, we know that trade can never be looked on as a unifying factor or as a primary agent of ancient civilization simply because no one aspect of it was an overriding cause of cultural change or evolution in trading practices. Many ever-changing variables affected ancient trade, among them the demand for goods. This demand prompted a search for supplies, themselves a product of production above local needs, created to satisfy external requirements. Then there were the logistics of transportation, the extent of the trading network, and the social and political environment. Intricate market networks channeled supplies along well-defined routes. Authorities at both ends might regulate the profits fed back to the source, providing the incentive for further transactions. There may or may not have been a market organization. Extensive long-distance trade, like large-scale irrigation, was a consequence rather than a cause of civilization.

Warfare

In a classic paper published in 1970, Robert Carneiro used the archaeology of coastal valleys in Peru to propose that warfare over restricted resources played a key role in state formation. His “coercive theory” of state origins argued that the amount of agricultural land in these valleys was limited and surrounded by desert. So a series of predictable events led to the development of states. At first, autonomous farming villages flourished in the valley landscape. But as the population grew, and more land was taken up, the communities started raiding each other’s fields as they competed for limited acreage. Some of the village leaders emerged as successful warlords, became chieftains, and presided over large tribal polities. The valley population continued to grow, and warfare intensified until the entire region fell under the sway of a single successful warrior, who presided over a single state centered on the valley. Then this ambitious ruler and his successors started to raid neighboring valleys. Eventually a multivalley state developed, creating a much larger civilization.

Carneiro’s theory is hard to test in the field, although it has some support from highland Mexico. In the Oaxaca valley, warfare in the form of intervillage raiding seems to have begun very soon after the first villages were established. Archaeologists Kent Flannery and Joyce Marcus have shown how one of these villages, San José Mogote, was protected by a stout timber palisade c. 1500 B.C. This had been burned to the ground, but the village was rebuilt and raiding became increasingly intense over the following thousand years as communities strove for dominance. The main temple in the village was attacked and burned once again in the seventh century B.C., but once again the community rebuilt, this time with a carved stone monument depicting a prisoner whose heart had been removed, and whose name is recorded in an adjacent hieroglyph. The people of San José Mogote cemented their victory by founding the hilltop city of Monte Albán in the fifth century B.C., which dominated the Oaxaca valley as the center of a unified state until the arrival of the Spanish conquerors 2,000 years later.

Warfare is also evidenced in early Egypt, where the famous Narmer palette provides visual testimony to a savage military campaign, with a victorious king presiding over a row of headless corpses. It was through warfare that the expansionist chiefdom of Naqada in Upper Egypt was able to overthrow its neighbors and eventually to conquer the fertile delta of Lower Egypt, thus creating a unified Egyptian state. When absolute and despotic monarchs came into power warfare become waged on an ever-larger scale,

with standing armies to control important resources, solve political questions, and ensure social inequality. This type of warfare presupposes authority and is a consequence of civilization.

COERCIVE POWER VERSUS COLLECTIVE ACTION

Several of the theories that we have reviewed would fall within the category of coercive: that individuals and communities were forced to participate in the process of state formation. The pressures leading to such an outcome include the following:

- Hostile external coercion (as in Carneiro's model of military conquest);
- Oppressive internal coercion (where an elite group gains control over some crucial element such as irrigation water in Wittfogel's hydraulic despotism scenario);
- Self-preservation in a context of military threat, as where individuals are obliged to concede increased central control in order to withstand the threat posed by a more powerful neighbor.

It is important to recognize, however, that in some circumstances, societies voluntarily coalesce into states under the impulse of other factors. Thus, the city of Uruk in southern Mesopotamia was clearly an important cult center and may have attracted settlers through its sanctity and religious prestige. The same may have been true of Teotihuacán, where the cave below the Pyramid of the Sun was reputed to be the locus where creation took place. Thus whatever its military and political power, Teotihuacán may also have drawn upon religious authority. There are many more recent examples, including Jerusalem and Mecca, of cities that grew great as centers of pilgrimage.

Recent studies of state formation have placed particular emphasis on the role of human cooperative action. For Richard Blanton and Lane Fargher, cooperation is deeply rooted in human evolution, and the development of the marketplace was one venue in which individuals could appreciate the benefits of all working together. This deeply grounded capacity for cooperative action could have underpinned the development of the first states. As Charles Stanish has argued, ritual practices probably played a key role in creating codes of behavior that allowed state societies to form and to flourish without heavy-handed coercive control.

One category of theories that combine both coercive and cooperative elements in charting the development of state societies is those that employ the concept of the cultural system.

CULTURAL SYSTEMS AND CIVILIZATION

Most archaeologists agree that urban life and preindustrial civilization came into existence gradually, during a period of major social and economic change. Everyone agrees, also, that linear explanations that invoke irrigation, trade, or warfare are inadequate. Most theories of the rise of states invoke multiple and often intricate causes, and some have been based on the idea that they can be understood as complex "systems."

It was during the 1960s that archaeologists began to think of human cultures as "cultural systems," made up of many interacting parts, among them, for example, technology, social organization, and religious beliefs. The cultural system itself was part of a much larger, ever-changing ecological system and varied in response to constant environmental modification. The notion of cultures as systems led to more elaborate models of the origins of states.

Archaeologists like Kent Flannery, who works in Mesoamerica, saw the state as a very complicated "living" system, the complexity of which could be measured by the internal differentiation and intricacy of its subsystems, such as those for agriculture, technology, religious beliefs, and so on. The way in which these subsystems were linked and the controls that society imposed on the system as a whole were vital. This model seemed to work well with Mesoamerican states, where pervasive religious beliefs formed close links among public architecture, the economy, and other "subsystems" of civilization. Colin Renfrew used a form of systems approach when studying the origins of Minoan civilization, a model in which trade and agricultural intensification played a leading role (see pages 272–273).

Systems approaches to the origins of civilization tend to be somewhat abstract and to make a distinction between the processes of culture change (the succession of changes by which early states acquired their new complexity), the mechanisms by which these processes occurred, and the socioenvironmental stresses that selected for these mechanisms. Thus, an explanation of the development of states centers on the ways in which the processes took place.

The subsystems within a cultural system are regulated by a control apparatus that keeps all the variables in a system within bounds so that the survival of a system is not threatened. This apparatus of social control is vital, for it balances subsistence needs with religious, political, social, and other ideological values. There is a well-defined hierarchy of regulation and policy, ranging from those decisions under the control of individuals, to institutions within society with specialized functions, such as the priesthood, to the basic highest-order propositions, those of societal policy. These abstract standards, or values, lie at the heart of any society's regulation of its cultural system.

The management and regulation of a state is a far more elaborate and central undertaking than that of a small chiefdom. Indeed, the most striking difference between states and less-complicated societies is the degree of complexity in their ways of reaching decisions and their hierarchic organization, not necessarily in their subsistence activities. Any living system is subjected to stress when one of its many variables exceeds the range of deviation that the system allows. The stress may make the system evolve new institutions or policies. Such coping mechanisms may be triggered by warfare, population pressure, trade, environmental change, or other variables. These variables create what Kent Flannery calls an "adaptive milieu" for evolutionary change.

Systems models of early states are bound to be complex, for they have to distinguish between mechanisms and processes and the socioenvironmental pressures by which we have sought to explain the origins of civilization. Religion and control of information now appear to be key elements in the regulation of environmental and economic variables in early civilizations and, indeed, in any human society.

ECOLOGICAL THEORIES

Ecologically based theories, which also rely heavily on systems approaches, have enjoyed a relatively long life compared with many other hypotheses, but they face the objection that testing such models is very difficult. For example, in a classic study of the Valley of Mexico, William Sanders and a group of archaeologists showed how the Aztec state created and organized huge agricultural systems that spread over the shallow waters of the lakes that once filled the valley. The variability of the local environment—including some lakes too saline for local agriculture, rugged volcanic soils, and dramatic

changes in elevation from snow-capped peaks to dry valleys—meant that the Aztecs had to exploit every environmental opportunity afforded them. Thus, Sanders argued, the state was required to organize large-scale agriculture to support a population of up to 250,000 just in and around the Aztec capital, Tenochtitlán. Environmental factors were decisive in each area where civilization began, he believed, coupled with centralized leadership.

Local environmental change could have been relevant to the origins of several preindustrial civilizations. Declining Nile floods may, for example, have been a factor in the formation of the Egyptian state. But centralized organization, or effective cooperation, was also of paramount importance. A powerful leader has the information about state-held resources at his or her disposal, along with the ability to command peoples' labor and to collect and redistribute its results. Thus, goes the argument, states arise in social and environmental contexts in which centralized management solves problems effectively.

The ecological approach has serious problems. How, for example, does one tell which environments would foster state formation? Fertile floodplains like those in Mesopotamia and Egypt? Coastal river valleys like those in Peru? Highland plateau like those of Mesoamerica? Or areas where land is in short supply (also coastal Peru)? States have arisen in regions where there are few geographical constraints, like the Maya lowlands of Mesoamerica. Further, preindustrial civilizations have developed without any sign of rapid population growth in Iran and other parts of Southwest Asia. But there can be no doubt that environmental change and environmental factors were major players in a very complex process of cultural change and response.

SOCIAL THEORIES

In recent years, archaeology has shifted away from systems-ecological approaches toward a greater concern with individuals and groups. These theories have often tended to be somewhat impersonal, treating states as rather anonymous, even mechanical, entities, which operated according to complex processes of cultural change. A new generation of researchers is carrying social approaches in new directions, arguing that all human societies consist, ultimately, of individuals and groups interacting with one another and all pursuing their own agendas. Their hypotheses revolve around such phenomena as power, ideology, factionalism, and the role of the individual.

Power in Three Domains

Archaeologically, one can look at power in three domains: economic power, social and ideological power, and political power. The combination of economic productivity, the control over sources and distribution of food and wealth, the segregation and maintenance of the stratified social system and its ideology, and the ability to maintain control by force were the vital ingredients of early states. Each of these domains was closely linked to the others, but they can be studied separately in the archaeological record.

Economic power depends on the ability to create more specialized production and to organize the diverse tasks of storage and food distribution. In time, stored wealth in food and goods develops into relationships of dependency between those who produce or acquire the wealth and those who control and distribute it. A state comprises elites (the noble class), officials (the managers), and dependents (the commoners). The landowning class and the landed estate—whether owned by a temple, the ruler, or a private individual—provide security for its dependents. All early states developed from foundations in which agricultural production became more intensified and diverse while at the same time moving away from purely kin-based organization into centralized structures, which crosscut or overrode kinship ties.

Economic power also rested in trade and exchange, in long-distance networks that provided access to commodities not available locally. Sumer obtained its metal from Anatolia, Iran, and the Persian Gulf. Egypt acquired gold and ivory from Nubia, and highland Andean civilizations imported fishmeal from the Pacific coast. The acquisition of exotic commodities or goods on any scale required organization, record-keeping, and supervision. The archaeological record shows that the extent of state supervision of trade and traders varied considerably from civilization to civilization.

Social power means ideological power, and it comes from the creation or modification of certain symbols of cultural and political commonality. Such common ideology, expressed in public and private ceremonials, in art and architecture, and in literature, serves to link individuals and communities with common ties that transcend those of kin. Those who create and perpetuate these ideologies are held in high honor and enjoy considerable prestige, for they are often perceived as interceding with the spiritual world and the gods, and they are sometimes even seen as living deities themselves. The guardians

of ideology are privileged individuals, for their spiritual powers give them special social status and allow them to perpetuate social inequality. So important is ideology that one can speak of the Mesopotamian or Maya areas not in a unified political sense, for they were made up of patchworks of city-states, but rather as zones that shared common ideologies concerning the nature of rulership, and the relationship of rulers to the divine.

Many great cities of the past, like Ur in Mesopotamia or Angkor in Cambodia, were a combination of the spiritual and the secular. They all boasted of powerful priesthoods and religious institutions, which owed their wealth to their ability to manage the spiritual affairs of the state, to legitimize rulers as upholders of the cosmic order. And temples, pyramids, and plazas provided imposing settings for elaborate public ceremonies, which ensured the continuity of human life and the universe.

Political power rests in the ruler's ability to impose authority throughout society by both administrative and military means. Those who held positions of authority within either the bureaucracy or the army did not come from within the kin system but were recruited outside of it. This political power lay in foreign relations and in defense and waging war. It also operated at a statewide level, dealing with the resolution of major disputes between different factions. But a great deal of power lay outside the political estate, in the hands of community and kin leaders who handled many legal matters that revolved around such issues as land ownership and family law.

Norman Yoffee believes that the interplay between these three sources of power led to the development of new, society-wide institutions, to supreme rulers and the state. There was, he says, no one moment when civilization came into being, for social evolution did not end with the rise of the state. Preindustrial states functioned in an atmosphere of continual change and constant disputation. Some collapsed; others survived for many centuries.

This approach to the origin of states argues not for unilinear, neo-evolutionary ladders but for a much greater diversity of social evolution, which saw multiple trajectories for the development of social complexity. Many societies operated under significant constraints; they may have lacked, say, dependable crops or domesticated animals or the ability to store large amounts of food. Constraints like these took human societies along very different evolutionary paths than those of the state. That some societies did not become civilizations does not mean that they were stuck in a backward "stage" but simply that constraints on growth prevented the interplay of the

major factors that led to state formation elsewhere. Thus, the chiefdom, where social inequality came from within the kin system—where inequality was based on access to resources and the power this control provides—is an alternative trajectory to the state. This approach to the origin of states will require sophisticated research that combines archaeological and historical records in a new synthesis, seldom attempted in the past.

Ideology and Power

Every early civilization had a pervasive set of religious beliefs and philosophies, which encompassed the whole of society. Even where local, and household, beliefs may have diverged from the overarching ideology, the practices of the state provided a ritual calendar that organized planting, building, festivals, taxation, and more, encouraging the conformity of its members. To study such intangibles as belief and ideology, however, is a formidable task. Ideologies come down to us in distinctive art styles, like those of the Egyptians or the Chavín art style of the Andes, serving as visual reminders of a state's ideology, reinforcing the power of supreme rulers and their special relationships to the gods and the spiritual world. In societies where only elite minorities are literate (or have scribes in their employ), art has a powerful role to play in shaping society and reinforcing ideology.

Public architecture also reinforces ideology. The first Mesopotamian cities grew rapidly, turning from loose agglomerations of villages to sizable, closely packed urban precincts clustered around a central complex of public buildings. The ancient ziggurats, the temple pyramids of Sumerian city-states like Ur, towered high over their surroundings, artificial mountains that rose toward the heavens (see Figure 3.11). The Maya lived in cities like Copán and El Mirador, which were depictions in stone, wood, and stucco of a symbolic landscape of sacred hills, caves, and forests (see Figure 15.11). It was here that great lords appeared before the people in elaborate public ceremonies. Through ritual bloodletting, visions, and dance, they made co-present the world of the deities and ancestors. These sacred rituals validated the world of the Maya and linked noble and commoner, ruler and humble village farmer, in a complex social contract. The leaders were the intermediaries, the people who guaranteed plentiful crops and interceded with the gods to ensure the continued existence of human life. The ceremonial centers, with their pyramids, plazas, and temples, were reassuring settings

where the dramas of life and death, of planting and harvest, were played out against a backdrop of ever-changing seasons and of passing time. These ceremonies justified social inequality, the great distinctions between the ruler and the ruled.

The ceremonial center ensured the continuity of cultural traditions and was an instrument of religious power. Here the religious and moral models of society provided a sacred canon that circumscribed political institutions and delineated the social order. The words of the gods rang out in reassuring chants passed down from generation to generation, often in the name of divine rulers, themselves deities on earth. Pyramids and temples, public buildings, were tangible expressions and instruments of religious power. Many early civilizations, like those of the Maya, Mesopotamians, and the Indus valley, were founded with powerful religious beliefs at their very core. Eventually, the ceremonial centers were taken over by rising secular rulers, who were sometimes installed by force. As the power of kingship grew, the political power of the ceremonial center declined, although its religious functions were carefully maintained. The king assumed the secular, and often militaristic, leadership of the state. Inevitably, the king's residence, the royal palace, became an important part of public architecture and ceremonial centers, even if the ruler's powers were entirely secular, and all the more if he assumed a divine role himself. Royal tombs achieved great elaboration, standing as garish and splendid monuments to the awesome political and social power behind them.

In every part of the world where early civilizations appeared, ceremonial centers were preceded by inconspicuous prototypes tended by priests or cult leaders and often honoring revered ancestors. These people must have been among the first to be freed of the burden of producing food, supported by the communities they served. Thus it was no coincidence that the ceremonial center was the initial focus of power, exchange, and authority, an authority vested in religious symbolism and organized priesthoods. Very often, those who served these divine beings became the people of authority, the individuals who controlled economic surpluses, offerings, and the redistribution of goods. The temples became a new instrument for organizing fresh political, social, and religious structures. Soon symbolic statements describing society served as models not only for behavior and belief but also for the ceremonial centers that perpetuated and formulated them. Khmer and Maya cities were reproductions of symbolic worlds in clay and stone.

Egyptian pyramids symbolized the close relationship between the pharaoh and the sun god in heaven. The plazas and pyramids of Mesoamerican cities such as Teotihuacán and Tikal provided imposing settings in which the elaborate theater of religious ceremonies was played out before enormous audiences. On such occasions, the ruler, as intermediary to the gods and the spiritual world, would appear before the people in a theatrical reinforcement of the beliefs that caused society to run on smooth rails and ensured the continuity of human life and of civilization.

Ancient ideologies were as complex as our own, and they defy ready archaeological analysis by their very complexity and nonmaterial nature. To understand the true complexity of ancient ideologies really requires texts written by people of the time, such as exist for Sumerian, Egyptian, and other civilizations. The recent decipherment of Maya script has shown just how important and pervasive ideologies were in ancient civilizations. Until decipherment, most authorities assumed Maya rulers were peaceful priest-kings, who used their power as astronomers to preside over small city-states governed perhaps from virtually empty temple-cities. But Maya glyphs reveal kings and queens struggling with the secular difficulties of alliance, inheritance, and warfare, as well as engaging with an intricate and complex pantheon of deities and religious beliefs that often defy modern analysis. Each day in the Maya calendar possessed a combination of qualities; every compass direction, colors, and characteristics; each deity, many roles and moods. Nothing in Maya society occurred without acquiring symbolic and often ideological meaning. In Egypt, too, the ancient precedents of the pharaohs' rule and the teachings of the gods permeated all society and governed even the collection of taxes and the distribution of rations. As we see in Chapter 4, the development of the distinctive ideology of Egyptian kingship played a vital role in shaping more than 3,000 years of civilization along the Nile.

Ancient societies were as diverse as modern ones. Their leaders traded with neighbors near and far. The state functioned for the benefit of a minority, privileged rulers, and nobles to whom all wealth and power flowed. A ruler governed his domains by deputing governance to relatives and loyal followers, who became provincial governors. The Inka lords colonized newly subjected lands with loyal nobility who ruled in their name. They often resettled thousands of farmers in lands far from their homeland to protect themselves against rebellion. But, inevitably, some individuals were more

ambitious than others, rebelling against authority and plotting to gain supreme power. Competing factions within local groups and in different regions triggered social inequality and changing patterns of leadership, increased specialization, and the development of states. And once civilizations came into being, they would challenge royal successions and even lead to civil war when a ruler was perceived as weak or indecisive.

The study of power relations in early state societies relies on a combination of archaeology, anthropological observations, and historical records. For example, the recent decipherment of Maya glyphs has revealed dynasties of ambitious, lords obsessed with genealogy and with legitimizing their succession, living by their wits and military skills in a world of ever-shifting diplomatic alliances and factional disputes. As Chapters 4 and 17 show, competition and internal dissent were powerful catalysts in the development of many early states.

Individuals and Gender

Studies of gender relations and the roles of small groups in early civilizations are critical for understanding ancient civilizations. For example, Aztec women learned how to weave in childhood, for skillful weaving was considered an important attribute of Aztec womanhood. “The good middle-aged woman [is] a skilled weaver, a weaver of designs, an artisan, a good cook, a preparer of good food” (Dibble and Anderson, 1950–1975, p. 96). Thus did sixteenth-century Franciscan friar Bernardino de Sahagún Aztec informants describe a noblewoman’s role in Mexican civilization before the Spanish conquest. But this description is grossly misleading and simplistic because it ignores the links between weaving, cooking, child rearing, and other tasks and the wider society in which the women lived. Women wove textiles and the capes that were the badges of social status in Aztec society. Their woven products were vital to the enormous tribute and market system on which Aztec civilization depended. Cotton mantles were a form of currency, and cloth became a primary way of organizing the ebb and flow of goods and services that sustained the state, its merchants, and its economy.

Archaeologist Elizabeth Brumfiel has shown that the women living in the Aztec capital turned away from weaving to the cultivation of nearby swamp gardens and the salting of fish. In contrast, women living at some distance outside the capital spent most of their time weaving to satisfy the tribute

demands of the capital. Thanks to Brumfiel's work, we know that the Aztec household and the roles of women were much more varied than Sahagún informants suggested. Cooking and weaving were important ways of maintaining social and political control. Women were makers of both valuable goods and people. It was they who ensured the continuity of Aztec kin groups. Women played a dynamic and highly adaptive role in this remarkable civilization.

Another archaeologist, Christine Hastorf, has studied changing gender relations among ancient Sausa maize and potato farmers in highland Peru. Before the Inka conquest of A.D. 1460, the Sausa lived in local population groups of several thousand people. The Inka dispersed the Sausa into small village settlements and forced them to increase maize production. Hastorf used the distribution of food remains from ancient and modern dwellings and stable isotope analyses of male and female skeletons from archaeological sites to study the resulting changes in gender relations. Under the Inka regime, each male had to perform agricultural and military service. They were fed meat, maize, and corn beer. Unlike earlier times, the tasks of men and women were separated physically, politically, and symbolically. The men farmed and were often absent, while the women intensified their food-producing and beer-making activities in support of the males. Hastorf found that in pre-Inka times, males and females ate quinoa, potatoes, and some maize. But after the Inka conquest, many of the male diets were much richer in maize than those of women, which may reflect a higher rate of beer consumption by the men. The political climate had changed. Men were involved in many more activities outside the household, while the women worked harder and had a more restricted role in the new society.

Similar processes of change have been documented in early Mesopotamia, where one of the main craft products (as in Aztec Mexico) was textiles. Weaving began as a domestic occupation carried out by women in their own households. During the third millennium B.C., however, as the Mesopotamian cities grew, conditions changed and textile production became connected to the large estates. Documents record thousands of people, including many women and children, working in these establishments as forced laborers who had effectively lost control of the products of their work. Archaeologist Joy McCorriston argues that such changes in textile production played an essential role in the transformation of ancient Mesopotamia from a predominantly kin-based to a predominantly class-based society.

Relatively small, often anonymous groups within ancient societies can sometimes be identified by their distinctive artifacts. A case in point comes from great city of Teotihuacán just northeast of the Valley of Mexico, where a special quarter was home to a flourishing community of artisans and merchants from the Valley of Oaxaca. Archaeologist René Millon was able to identify this minority group from their distinctive pottery, which was confined to their *barrio* within the city. Mural art and ceramics suggest the presence, too, of Maya artisans crafting for, and perhaps living as, elites in the city. Isotopic analyses of skeletons from Teotihuacán further reveal the presence of people from across Mesoamerica. Teotihuacán was thus a cosmopolitan place, and many early civilizations were far more diverse than conventional wisdom has allowed. Witness the polyglot population of Babylon recorded in the Old Testament and the known diversity of imperial Rome's teeming urban populace.

Only recently have archaeologists begun to use artifacts and other material remains to study the many groups within early civilizations. This research shows us that archaeology has the potential to probe the ways in which men and women adapt to changing circumstances and allows us to move beyond the deeds of kings and divine rulers and study the ever-changing interactions among the many groups that made up the societies over which they presided. And in complex, state-organized societies, this kind of meticulous inquiry will tell us much about the intricate and ever-changing dynamics of societies very different from our own.

In an era when archaeological research has become increasingly specialized, it is probably futile to search for a theory of state formation that can be applied to all civilizations. Some common questions, however, revolve around the implications of ecological variables for the political orders of societies about to become states: How is ecological opportunity or necessity translated into political change? What were the goals of the political actors, who were pursuing their individual goals while states were being formed? Which ecological variables were obstacles? Which were opportunities? The answers to these questions will come from sophisticated studies that combine systems-ecological approaches with careful research into what British archaeologist Colin Renfrew once called "the archaeology of mind," the elusive intangibles behind the material record of the past.

CYCLING CHIEFDOMS: PROCESSES AND AGENTS

The world's first states, politically centralized and socially stratified societies, developed in only a few locations—in Egypt and Mesopotamia by 3100 B.C., and in Mexico and the Andean region by at least 200 B.C. Invariably, they were formed in a distinctive political environment, in what Kent Flannery calls "the dynamic crucible of cycling chiefdoms." He and others believe that states arise in situations where a group of chiefdoms are competing with one another, as they did along the Nile River in the fourth millennium B.C., for example. Eventually, one of the competitors succeeded in achieving political dominance over its neighbors, so that they became provinces of a larger political unit. This competition can arise from many causes: rivalry between chiefly families, factionalism, endemic warfare and raiding, dramatic differences in population densities from one area to the next, crop failure, or just plain weak leadership or outright conquest.

Henry Wright has described this process among chiefdoms as "cycling," a constant fluctuation between simple and more complex chiefdoms. Each chief presides over a single village and some lesser hamlets nearby. Then one leader usurps the power of his once egalitarian neighbors and forms a much larger political unit, where the former village chiefs become subchiefs. The newly powerful kingdom expands, then breaks down into smaller chiefdoms again, or simply collapses in a recurrent process of emergence, expansion, and fragmentation.

Ancient chiefdoms had the hereditary inequality and hierarchical social structure from which a state could arise, but this rarely happened. As we have already seen, Robert Carneiro, an expert on chiefdoms, has outlined some of the processes for creating one. You defeat neighboring communities in war, then incorporate them into a larger political unit. At the same time you take prisoners and force them to work for you as slaves. Once you have established control, you appoint close supporters to administer the conquered areas, unless the defeated chiefs are cooperative. Your subjects pay you tribute at regular intervals and are expected to provide fighting men in times of war. States were much larger and more centralized than chiefdoms, as well as being much more stratified socially and politically. Invariably, however, they shared the processes that Carneiro lays out.

Under this argument, state formation began with the processes Carneiro describes, with the addition of chiefly cycling. Centuries might pass with the

usual cycles of simplicity and complexity without any quantum jump in social and political complexity. Then, suddenly, three processes come together:

- A standoff of some kind between neighboring and constantly warring chiefdoms develops, reflected in the dispersal of population and the development of "buffer zones" between neighbors.
- One center rapidly acquires additional population, perhaps at the expense of its neighbors. Sometimes highly organized warfare comes into play, as campaigns of conquest replace the constant raiding of earlier times. Conquered areas are incorporated into the new, much larger kingdom.
- A large capital settlement, usually a city, develops as the ultimate level in a four-level settlement hierarchy: city, regional centers, subcenters, and villages.

Carneiro and Wright believe that the formation of states required some form of territorial expansion. But there are limits to the amount of resources that chiefs and their elites can extract from their followers. When that moment comes, they have several options: increase their demands on their subjects, which raises the specter of rebellion; intensify agricultural production with technological innovation; or expand their territory by subjugating their neighbors. If the third alternative is chosen, the kingdom rapidly comes to a point where it becomes larger than the chief himself can administer, so he has to restructure the way he administers his domains and probably make ideological changes to reflect the new political system—a state. This process is reasonably well documented in Mesopotamia and Egypt, also in Mesoamerica and the Andes.

These are, however, generalized, anonymous processes, like those criticized by postprocessualists. As scholars of the latter school have often pointed out, it is people, individuals, and groups, who are responsible for political and other cultural change. They are the "agents" as opposed to the "processes." To study ancient agents requires very rich historical records, which enable us to identify individuals and describe their deeds. In some cases, like Egypt, we know the names of seminal rulers like the first pharaoh Horus Aha, but they are little more than shadowy personages on the stage of history. No question, however, that people of great ability and charisma were

responsible for the rise of many powerful states known from historical times. Flannery cites the example of the remarkable King Shaka, who set up the Zulu state in South Africa in the early nineteenth century, King Kamehameha of Hawaii, and others (Figure 2.2). All of them were individuals who were products of their times, whose personal abilities made the most of unusual circumstances, accidental situations, and other moments where they could further their political and military goals. The result was, invariably, a process of historical change.

FIGURE 2.2 Utimuni, nephew of Shaka Zulu, in warrior uniform. Painting by George French Agnes, 1849. British Library Board. All Rights Reserved/Bridgeman Images.

Flannery lists ten qualities that marked Shaka and other agents and argues that they were shared by the chiefs of unusual ability who created the first civilizations. They were members of an elite, people with aggressive and authoritarian personalities, with outstanding military abilities that gave them upward social mobility. They usurped the position of chief by fair means or foul, then conquered their immediate neighbors, while seeking a competitive advantage over more distant rivals (this could be technological, a matter of military strategy, and so on). They used this advantage to expand into more distant lands, while using forced labor to intensify agricultural production, as

a means of keeping subjects content and of provisioning armies. If they could not intensify their food production, they acquired additional resources by raiding. Finally, they solidified their position by power-sharing, even if it was nothing more than a nominal gesture. This was definitely not democracy, for the earliest states were ruled by strong, able rulers, who governed autocratically, even if they had nominal councils of advisers.

Much depends on ideology, too, for invariably the preindustrial states were held together by a powerful and distinctive ideology. The famous *Epic of Gilgamesh* gives us a flavor of Mesopotamian ideology. The pharaohs ruled as the living personification of the sun god. Maya lords were intermediaries between the people and divinities. These ideologies were reflected in sacred places, where lavish ceremonies and public appearances by the ruler were important symbols of continuity and stability, where the ruler's subjects directed their loyalty to the central figure at the pinnacle of the state. Ideology never caused states to come into being, but was an invariable and important part of their fabric once they had come into being.

Both processes and individual agents played vital roles in the formation of states. Aggressive individuals of great ambition have been members of human societies since the beginning, but until about 6,000 years ago they never lived at a time when conditions of social inequality and chiefly competition were endemic in areas like Mesopotamia and the Nile Valley, or later in Mesoamerica and the Andes. Then these circumstances, competitive advantage, military prowess, and other factors turned a few of them from powerful chiefs into authoritarian kings, soon supported by compelling new ideologies developed from earlier and less-complex worldviews.

All of these complex happenings were precursors to the development of the first state-organized societies, which appeared in Egypt and Mesopotamia about 5,000 years ago, in Mexico and Peru some 2,000 years before present. Primary or first-generation states were never common, nor were they inevitable. Many parts of the world were home to nothing more hierarchical than ranked chiefdoms until the twentieth century.

We archaeologists face challenging questions about the early civilizations that will take generations to answer. How, for example, can we explain why states developed some 3,500 to 4,000 years after the appearance of the first farming villages when it took only about 1,500 years in Mexico? What roles did spiritual authority and ritual practice play in the development of more complex societies? Did military force have a role? These are not new

questions, but they require answering not on a global basis, but in terms of individual societies. Once we have that kind of specific information, we may be able to formulate answers to the reasons why many preindustrial states shared common features, while developing their own distinctive solutions to local problems. At issue here are complex social realities, such as changes that suppressed self-interest in favor of specific families or kin groups who acquired significant advantages over less-successful neighbors. They would justify their superiority by claiming special relationships with revered ancestors and supernatural beings that controlled the forces of the cosmos. Inevitably, there was intense competition and maneuvering for position between clans and chiefly lineages, as well as ethnic groups, such as there is in many human societies to this day. One only has to contemplate the intense factionalism in the pharaoh's court in Egypt to get the point, especially in ancient times when any ruler or other prominent person, whatever their age, was quite likely to become ill and die without notice. In most early civilizations, heredity and privilege were everything.

THE COLLAPSE OF CIVILIZATIONS

Many scholars, among them Paul Kennedy and Jared Diamond, have written about cycles of history, the rise of civilizations, their brilliant apogees, and their sudden declines. Eventually one civilization falls and another rises to take its place, which, in turn, goes through the same cycle of rise and fall. The record of early civilizations could easily be written in cyclical terms, for states have risen and then collapsed with bewildering rapidity in all parts of the world within the past 5,000 years. In the Mexican highlands, for example, the city of Teotihuacán flourished between 200 B.C. and A.D. 550. In A.D. 400, it had a population of more than 125,000 people. For over 500 years, more than 85 percent of the population of the Valley of Mexico lived in or close to Teotihuacán. Then the city collapsed in the sixth century A.D., and its monumental buildings and palaces were set ablaze. Within half a century, the population shrank to a quarter of its former size. A series of lesser states competed to fill the political vacuum left by the great city's fall, until the Toltecs, and later the Aztecs, rose to supremacy.

Archaeologist Joyce Marcus has referred to the repetitive cycles of consolidation, expansion, and dissolution that were a feature of so many early civilizations as the "Dynamic Model." Initially developed through study of

the growth and decline of Maya states such as Tikal and Calakmul, the same framework can be applied to Central Mexico, the Andean region, Mesopotamia, and the Aegean. She has argued that in each of these cases, an initial unitary state endured for about two centuries before breaking down into smaller units (often city-states), which then underwent further cycles of expansion, unification, and fragmentation as political and economic fortunes rose and fell. The reason for these cycles lies, in her view, in the difficulty of maintaining large-scale inegalitarian structures over the long term: The "peaks" of consolidation inevitably give way to the "valleys" of dissolution.

Charles Golden and Andrew K. Scherer have documented one such cycle of rise and collapse in the Maya kingdoms of Piedras Negras and Yaxchilan. Both rose to prominence in the fourth century A.D., as centers of power and prestige, controlling their immediate surroundings but encircled by an empty buffer zone. In the seventh century, however, their rulers sought to consolidate their power over the surrounding landscape, to absorb the buffer zone, and to establish secure frontiers to their domains. In order to do so, they devolved more and more power to subject warlords around the edges of their territory. Lacking systems of governance capable of controlling these extensive landholdings, however, they proved fragile and both dynasties collapsed in the early ninth century A.D., just as Yaxchilan seems finally to have won a decisive victory over its rival.

When a complex society collapses, it suddenly becomes smaller, simpler, and much more egalitarian. Population densities fall, trade and economic activities dry up, information flow declines, and the known world shrinks for the survivors. Joseph Tainter, one of the few archaeologists to have made a comparative study of collapse, points out that an initial investment by a society in a growing complexity is a rational way of trying to solve the needs of the moment. At first the strategy works. Agricultural production increases through more intensive farming methods; an emerging bureaucracy works well; expanding trade networks bring wealth to a new elite, who use their authority and economic clout to undertake great public works such as pyramids and temples that validate their spiritual authority and divine associations. Maya civilization is an excellent example of these processes in action. It prospered greatly for centuries in the Mesoamerican lowlands until a point of diminishing return was reached.

As the most costly solutions to society's needs are exhausted, it becomes imperative that new organizational and economic answers be found, which

may have much lower yields and cost a great deal more. As these stresses develop, argues Tainter, a complex society such as that of the Maya is increasingly vulnerable to collapse. Tainter calls collapse not a catastrophe but a rational process that occurs when increasing stress requires some organizational change. Though collapse is not inevitable, it typically appears that way to people living through the process, or to archaeologists seeing the results long afterwards: when, for instance, there are few reserves to carry society through droughts, famines, floods, or other natural disasters. Rulers may make choices meant to stabilize their regime that instead result in unintended consequences and political dissolution, or important segments of society perceive that centralization and social complexity simply do not work anymore, and that they are better off on their own. Without positive feedback favoring political coherence the trend toward decentralization, toward collapse, becomes compelling and difficult to prevent. The population decline and other catastrophic effects that just preceded, accompanied, or followed collapse may have been traumatic at the time, but they can be looked at as part of what one might call an economizing process.

There is, of course, more to collapse than merely an economizing process. Complete collapse can only occur in circumstances where there is a power vacuum. In many cases, there may be a powerful neighbor waiting in the wings. In early times, numerous city-states traded and competed with one another within a small area. Sumerian cities, Minoan and Mycenaean palace-kingdoms in Greece and the Aegean, the Maya in Mesoamerica—all lived in close interdependence, in a state of constant peer polity interaction. They traded, fought, and engaged in constant diplomacy. Under these circumstances, political collapse is an invitation to be dominated by one's competitors. There is only loss of complexity when every polity in the interacting cluster collapses at the same time.

The collapse of early civilizations, then, may be closely connected to declining returns from social complexity and the normal political processes of factionalism, social unrest, succession disputes, and even civil war.

CIVILIZATION AND SUSTAINABILITY

Sustainability, or resilience, are key issues when considering the formation, growth, and collapse of states. These societies were characterized by populations unprecedented both in their size and in their density. It was not

just the number of people that lived in the Maya area or in ancient Mesopotamia, but the relatively small area into which they were concentrated. To support such populations, various intensive agricultural methods were developed, including large-scale irrigation and the terracing of hillslopes. These were designed both to increase yields from a given area and to increase the absolute amount of land under cultivation. These strategies were in essence very successful: They made it possible to feed larger populations than ever before and supported the growth of cities. But they also placed considerable strains on the environment and rendered them increasingly fragile and vulnerable to unexpected climatic events, and even to the short-term fluctuations with which these societies must already have been familiar. Thus, the argument is that ancient state societies were fundamentally fragile and often not resilient to political or environmental shocks owing to their size and the demands that they generated for ever-more intensive agriculture.

The evidence is often, however, very difficult to read. Thus in Egypt, it has long been argued that the rise and fall of successive dynasties was a direct consequence of environmental impacts manifest in the heights of the Nile flood. The annual Nile flood was vital to the agricultural system of ancient Egypt, bringing both water and fertile silt to the fields. A good year was one that watered the fields and filled the irrigation basins; a bad year, one where the flood was either too low or too high, bringing drought or washing away field systems and villages. A period of low Niles ushered in the First Intermediate Period c. 2134 B.C. Contemporary texts tell of widespread famine, but in such graphic terms that hyperbole must be suspected. The background is, after all, the collapse of centralized royal rule and all the certainties that went with it. Evidence from Birket Qarun demonstrates that the low Niles of the period were a reality, but the extent of famine recorded belongs to a literary genre of lamentation that cannot be relied upon as eyewitness accounts of actual conditions. Furthermore, it is clear that famine was already known from earlier centuries, as depicted in the pyramid complex of Unas around 150 years before. We need to distinguish carefully here between exceptional events and the regular pattern of fluctuation that characterizes every climatic regime. Furthermore, we should note that the human response is always crucial: Paradoxically, whereas low Nile floods may have disrupted the Egyptian state around 2150 B.C., a similar pattern of

declining Nile floods has been claimed by some as a primary cause behind the initial foundation of the unified Egyptian state a thousand years earlier.

Intensification is nonetheless a risky business, and the idea that these societies were nourishing the seeds of their own demise—a disaster waiting to happen—does deserve serious attention. Can we assume that the agricultural technologies designed to provide the high yields needed to support the growing urban populations necessarily had an adverse impact on the local environment? That might at first seem to be an inevitable conclusion: The early city sites of Mesopotamia, for example, stand today surrounded by an arid landscape. Yet it would be a mistake to attribute this automatically to overexploitation by early farmers.

The city of Uruk was one of the largest in southern Mesopotamia, and by around 3000 B.C. had grown into an enormous metropolis covering no less than 400 hectares (1,000 acres). Intensive irrigation agriculture supported this high population level, which must have placed a strain on the carrying capacity of the immediate environment. Uruk continued to be occupied for a further 3,000 years, however, which suggests that some stable accommodation with its local environment must have been reached. Furthermore, its desert-like setting today is the result not of overexploitation of the land but of a westward shift in the branch of the Euphrates that flowed past the western edge of the city and provided water for irrigation agriculture of the surrounding fields.

One of the damaging consequences of irrigation in climates with high evaporation rates is salination: the increased salt content of the ground water, or in extreme cases the formation of a salt crust on the surface of the fields. The effects are visible in parts of Mesopotamia today, as for instance in the area around Mari on the Middle Euphrates. In the 1950s, it was argued that salination had been a problem in southern Mesopotamia in the third millennium B.C., during the period of the early cities. In around 2450 B.C., the ruler of the city of Lagash built a canal to draw water from the River Tigris; fifteen years later, clay tablets record salinity problems in the Lagash area. Salination became an element in curse formulae; it was what you wished upon your enemies or upon would-be transgressors: In the frontier war between the cities of Lagash and Umma, the boundary was protected by the curse “May [the god] Enlil make salt surface in his furrows” should the ruler of Umma attempt to infringe it.

It is quite clear from this that South Mesopotamian farmers in the third millennium B.C. were familiar with the problem of salination, albeit the process may have been more localized than some have tried to suggest. The long occupation of city sites like Uruk, however, shows that it did not lead to dramatic societal collapse. Furthermore, documentary evidence suggests that fields that had been recorded as damaged by salination in one year reappear under cultivation a few years later: Mesopotamian farmers understood methods of remedial action to counter the effects.

Claims for environmental degradation have figured prominently in discussions of the "collapse" of the Maya city-states of lowland Mesoamerica. When explorers Stephens and Catherwood "rediscovered" the Maya cities in the 1830s, they were struck by the setting of tall pyramids and elaborately carved stelae among luxuriant forest growth. Here was the archetypal picture of a great "lost" civilization, abandoned cities submerged by vegetation. Theories of catastrophic or apocalyptic overthrow came naturally to mind to explain these dramatic scenes.

Recent studies of the Maya collapse have emphasized the gradual and progressive nature of the process, beginning earliest in the south and advancing northward. It was not a single, potentially catastrophic arid cycle, but droughts were prevalent. Warfare and social unrest are thought to have played a part, but these may well have arisen through pressure from other causes. The Maya cities had after all flourished for over 500 years, and had frequently been at war with each other.

But what about the possibility of food shortages? These could have come about either through natural or through humanly induced changes in the environment. Increasingly fierce competition between Maya cities led to an upsurge of monument construction during the eighth and ninth centuries A.D., which would have placed added strain on agricultural production and expansion. Interstate rivalry may hence have pushed the Maya toward overexploitation of their fragile ecosystem. Deforestation and soil erosion, exacerbated by drought cycles, might ultimately have destroyed the capacity of the land to support the high population levels of the Maya cities, leading to famine, social unrest, and the collapse of the major Maya centers.

Yet it may be incorrect to lay the blame entirely on human action. Several of the lowland cities, such as Tikal, appear to have depended heavily on the cultivation of channeled fields set in the marshy depressions known as *bajos*, which today flood intermittently in the rainy season but may originally have

been permanent lakes. The channeled field system of intensive cultivation allows year-round food production through the constant supply of soil nutrients from the drainage ditches dug around the raised fields. Stable water levels were essential to this subsistence system, but evidence from Lake Chichancanab in Yucatán shows that between the years A.D. 800 and 1000 this region suffered its driest period of climate for the last several thousand years. We may expect that as a result water levels fell and the raised fields in many areas became unusable. But the human response must be viewed through the lens of the social, political, and cultural circumstances. These exerted a powerful mediating effect on the way in which the Maya endeavored to cope with their difficulties. Had population levels been lower, the impact of the drought may not have been catastrophic; as it was, the Maya were already reaching the limits of the available subsistence capacity, and Maya elites had espoused certain social and political agendas (including expensive intercity warfare and competition). It was against this specific background that a period of drought led quickly to crisis and collapse.

Yet, ironically, it was the Maya cities around rivers, with the greatest rainfall, that collapsed first. Nor did all Maya cities fell into ruins, and the concept of a single cataclysmic Maya collapse has to be balanced against the fact that other Maya cities on the Yucatán peninsula—the driest part of the Maya world—such as Chichen Itza continued to flourish for several more centuries. Notions of collapse have a dramatic fascination, but are rarely borne out in the detailed archaeological evidence.

Environmental impacts may have been much more directly responsible for the decline of the Moche state of northern Peru. This is a much more fragile setting for dense human settlement. The coastal zone is exceptionally arid, with significant rainfall only once every few years. As a result, settlements rely almost entirely on the water brought from the Andes by the rivers that flow through this coastal desert to the sea, such as the Lambayeque, Chicama, and Moche rivers. From the fourth to the sixth century A.D. the major Moche center was the capital Cerro Blanco with its two mud-brick pyramids in the broad lower reaches of the Moche Valley. Then, sometime during the sixth century, Cerro Blanco was abandoned and new centers appeared further up the valley—at Galindo in the Moche Valley, and above all at Pampa Grande in the Lambayeque Valley. These were located at the point where the rivers emerge from the highlands into the lowland plains, at locations that are ideal for maximizing the irrigation potential of those water flows.

Ice cores from the Quelccaya glacier in the north Peruvian highlands have shown that this relocation coincided with a massive thirty-year drought, from A.D. 563 to 594. Sand dunes encroached on the former Moche capital, while massive deposits of alluvium indicate that the long drought was punctuated by a series of powerful El Niño (also known as El Niño-Southern Oscillation, or ENSO) events, bringing devastating floods. The shift of settlement upstream and to the north was an attempt to move away from the drought-prone areas to parts of the valleys where a more reliable irrigation system could be established. They indicate an understanding of the predicament and an attempt to cope, and to anticipate future droughts. But they were still vulnerable to floods, and a century later a massive El Niño flood destroyed the irrigation systems around Galindo and Pampa Grande, leading to the destruction of both settlements.

The Moche relocation indicates that this society sought to learn from its traumatic sixth-century experience and adapt to it by a modified irrigation strategy. A few centuries later, the Chimu state in the same coastal valleys of Peru attempted to resolve the drought problem by even more extensive canal systems, a process that reached its height with the construction of the 84–kilometer (52–mile) Chicama-Moche intervalley canal in the twelfth century. This and similar ventures sought to even out flow differences between the different valleys and above all to bring water to the fields around Chan Chan, the Chimu capital. Within a century, however, this large intervalley canal had fallen out of use, as slight tectonic tilting or erosion of the canal walls impeded the water flow. In this case it seems that the limits of the available technology were reached, but that technology was simply not adequate to cope with erratic water flows coupled with urban population growth.

A parallel example is provided by the Marib Dam in southern Yemen. Here again an urban society in an effectively desert setting depended entirely on the control of river water for irrigation purposes. This was achieved by constructing an enormous dam, some 580 meters (635 yards) in length, with massive masonry sluice-towers at either end. As sediments accumulated behind the dam, the structure itself was raised and repaired, growing taller but more vulnerable to floods. Eventually, in the late sixth century A.D., it broke for the last time and was abandoned, probably because it was no longer within the technical competence of the inhabitants of Marib to maintain it.

These examples illustrate the interaction between population, social organization, technology, and environmental impacts among early state

societies. The unprecedented size and food requirements of growing urban populations placed very heavy demands on agricultural systems. These, in turn, were often in fragile environmental settings—vulnerable either to overexploitation by the farmers themselves or to climatic irregularities. Some climatic events were on such a scale that they would have overwhelmed even low-density farming communities, but it is clearly the case that the scope for human catastrophe was made all the greater by the dependence on fragile irrigation systems.

To what extent were these societies aware of their vulnerability, or of the way in which population size and agricultural intensification were increasing that vulnerability? Famine was certainly not unknown, as we have seen even in the relatively stable environment of the Nile Valley. Likewise, some societies were aware of irrigation-related problems such as long-term salination, but appear to have devised measures to cope. Here the traditional knowledge of farmers themselves—the experience built up over centuries—must have been a major factor in achieving a high level of sustainability lasting several millennia. We may suspect, nonetheless, that early state societies had the same problem as modern societies in implementing effective policies to deal with long-term risks; phenomena, like global warming today, which appear to threaten not today or tomorrow but with consequences for the future, seem very remote in time when compared with the challenges of everyday living. However clear the threat, effective action is very difficult to mobilize. Yet in very fragile circumstances, early societies did go to extraordinary lengths to strive for some security, as exemplified by the construction of the Peruvian intervalley canals. This may be interpreted not as a response to immediate need but as a measure to anticipate and to counter future droughts such as that which so severely damaged the Moche state.

What is evident above all is the fragility of the relationship between state societies and their environments. This relationship, and the human response to crisis when it has occurred, must, however, always be viewed in the context of social, political, and cultural factors. Mechanistic interpretations in which drought, flood, volcano, or cometary impact lead directly to societal collapse must always be judged inadequate, however important those factors may have been in placing immense pressures on society. On the other hand, the needs of the elites in early states for wealth and tribute—to support their high-status lifestyles or to fuel territorial expansion—compounded the problems of population growth and led in many cases to an intensification of

agriculture that was close to the limit of sustainability given the technology available.

In some cases, these pressures will have driven processes of change and collapse over which human agents—whether rulers or ruled—had little effective control. In a few instances, changes arising from natural causes were so overwhelming that it would be hard for any society to cope adequately. But in all cases, the outcome owed much to human factors—the high density and distribution of population, the agricultural technology, and particular social strategies. Several societies appear to have been responsible for environmental degradation and, in that sense, may be held to have contributed to their own demise. But then again, we must note the long-term sustainability demonstrated by Dynastic Egypt or Mesopotamia, albeit with fluctuating fortunes. Thus there is no simple answer, and we must resist invoking extraneous factors with proper reference to the specific social, cultural, and political setting. What is true of early state societies is also of course the case in the modern world, where human attitudes as much as scientific evidence drive the contemporary debates over greenhouse gases, and genetically engineered crops.

WESTERN AND INDIGENOUS SCIENCE

The early archaeologists who worked in Egypt, Mesoamerica, Mesopotamia, and elsewhere were almost entirely male, many of them from privileged backgrounds. Professional archaeologists were few, members of a small, gossipy club where everyone knew everyone else, especially in the classical and eastern Mediterranean lands. Not that women were uninvolved. Sophia Schliemann worked with her husband at Troy and Mycenae during the 1870s. The novelist and travel writer Amelia Edwards (1831–1892) was one of the founders of the Egypt Exploration Society in Britain and worked tirelessly to promote Egyptology as a profession. In the 1880s, French archaeologist Jane Dieulafoy excavated the palace of Xerxes at Susa alongside her husband Marcel, living in the mud-brick fort that the team had to build for its own protection. The formidable Gertrude Bell (1868–1926) worked hard to found the Iraq Museum in the 1920s and investigated Islamic and Byzantine sites in Turkey, Syria, and elsewhere before World War I. Harriet Hawes (1871–1945) studied classical archaeology, was forbidden to excavate in mainland Greece, and worked instead in Crete where she found the Minoan town of

Gournia. Annie G. Hunter beautifully and accurately illustrated the monuments of Copan in the 1890s, providing a critical resource for the decipherment of Maya inscriptions. The number of women involved in the study of early civilizations increased slowly after World War I and has exploded since World War II. Many of the discoveries in these pages were made by women.

Archaeology originated in our curiosity about human origins and our forebears, and beyond that general interest has long played a role in substantiating the ideology of the state. The Babylonian ruler Nabonidus excavated ancient temples to connect his reign and religious practices to a more ancient past, just as the Aztec rulers dug into the remains of the earlier cities of Tula and Teotihuacán. So it is perhaps not surprising that during the colonial efforts of European governments early professional excavations in Egypt and elsewhere were in the hands of foreigners. It is important, however, not to overlook the key role played by local people in many major archaeological projects. Thus, John Marshall's discovery of Mohenjo-daro in the 1920s was paralleled by the work of Madho Sarup Vats at Harappa. Chinese archaeologists have worked on Shang civilization and royal sepulchers since the 1920s. It was Chinese scholars Tung Tso-pin and Li Chi who from 1928 first excavated the great Shang center of Anyang with its royal graves and oracle bones. Since World War II, the study of early civilizations has increasingly involved local scholars, some of them trained by European excavators: Sir Mortimer Wheeler's excavations in India in the 1940s trained a generation of Indian and Pakistani archaeologists. British and German archaeologists in Iraq developed methods of excavating unfired mud brick, which they taught to generations of Iraqi students and workers. In Mexico, scholars including Leopoldo Batres and Manuel Gamio revolutionized modern practice in the nineteenth and early twentieth centuries. In Peru, the work of archaeologist Julio C. Tello, born into a small Quechua-speaking community, revolutionized understandings of the Chavín, Paracas, and other civilizations.

The list of distinguished local archaeologists who have worked on important sites is a long one. Fuad Safar was a distinguished Iraqi excavator of the 1950s; Zahi Hawass headed Egypt's Council of Antiquities and was actively involved in the excavations of Graeco-Roman mummies at Bahariya Oasis west of the Nile. Ignacio Bernal was a pioneer of Mesoamerican archaeology; Eduardo Matos Moctezuma deciphered the complex history of

the Aztec Templo Major in the heart of Mexico City. The Peruvian archaeologist Walter Alva unearthed the spectacular Moche Lords of Sipán on Peru's North Coast in 1989. Ruth Shady Solis discovered the earliest Andean city at Caral near the Pacific coast north of Lima. To claim, as some do, that the archaeology of early civilization is the exclusive domain of North American or European scholarship is simply untrue. Today, most studies of early civilizations everywhere involve collaborative projects between local and visiting scholars, though it is still the case that indigenous peoples have all too often to turn to books and papers published in European languages in order to learn about their past.

Back in the nineteenth century, excavators received generous permits that allowed them to export almost all their finds, however unique and spectacular. Wallis Budge, a notorious late nineteenth-century acquisitor for the British Museum, went so far as to claim that anything he collected was "safe" in the British Museum. At the time, he had a point, for dealers and looters stole as much as they could and local museums were virtually nonexistent and often poorly resourced. The Sultan of Turkey and the Pasha of Egypt both maintained museums in their respective capitals, but it was not until the early twentieth century that such institutions began to receive at least a semblance of funding and scholarly respectability. Today, there are national museums in virtually every country in the world. At the same time, archaeological tourism has become big business, especially in countries like Egypt, Greece, Mexico, and Italy. Inevitably, the increasing sophistication of local antiquities and museum services, and the training of indigenous archaeologists and conservators, has led to demands that European and American museums return priceless antiquities such as the marble frieze removed from the Parthenon by Lord Elgin, which reside in the British Museum. The Italian authorities have been particularly aggressive in seeking the return of looted artifacts in recent years. Complex ethical issues are involved, as far as nationalist sentiments and debates over cultural patrimonies are concerned. Are the major artifacts, art, and sites of the early civilizations the property of the countries where they were found? Or are they, as has so often been argued, part of the common cultural heritage of all humankind? The debate has hardly begun and will take years to resolve.

The account of the early civilizations that follows is based on archaeological and other sources gathered by an extraordinarily diverse population of scholars. It is a series of linear histories based on unfolding

chronologies that begin as early as 5,000 years ago, which, where possible, takes advantage of surviving oral traditions and other indigenous sources. The archaeology of civilization is always changing, as new discoveries and fresh theoretical perspectives throw new light on some of the world's most fascinating ancient societies. Therein lies the fascination of archaeology: It is a unique source of information on how human societies changed over long periods of time, and, as such, offers us a better understanding of ourselves.

Summary

This chapter contrasts historical and anthropological approaches to the origins of states and summarizes the main theories developed by archaeologists as a background to later chapters. We summarize four classic theories for the origin of states, starting with Childe's Urban Revolution theory on the development of the city. Another group of theories invokes intensification of agriculture and irrigation. Exchange networks and warfare have also been espoused as potential causes of civilization. Many modern theories revolve around systems-evolutionary hypotheses and explanations involving environmental change. New generations of social approaches, in contrast, argue that religious and informational factors, epitomized by centralized authority, appear to have been key elements in the regulation of environmental and economic variables in early civilization. Such theories also stress that the social structure of a society ultimately determined its transformation, so the search for the causes of civilization means focusing on ecological variables and the opportunities they presented to individuals who pursued political goals in different societies. In other words, how is ecological opportunity or necessity translated into political change? Recent studies are now focusing on factionalism, ideology, gender, and charismatic leadership as promising areas of inquiry. The issue of sustainability is seen as critical to the formation, growth, and collapse of civilizations.

In the chapters that follow, we turn from theory to analytical narrative, tracing the key developments that shaped distinctive and highly complex early civilizations in many parts of the world.

PART II

The First Civilizations

PRELUDE TO CIVILIZATION: FIRST VILLAGES IN THE FERTILE CRESCENT

The study of agricultural origins is an enormous subject and is not the focus of this book, but farming provided the basic underpinning for the development and success of Mesopotamian and Levantine civilization, and a brief account is included here to set the scene. Without farming, cities and states would have been impossible.

For tens of thousands of years, Southwest Asia was populated by nomadic bands of hunters and gatherers, surviving by hunting deer and gazelle and gathering wild seeds, nuts, and berries. Just over 12,000 years ago, some of these bands began to change their lifestyle, taking advantage of the expanding grasslands and the nutritional potential of the wild cereals, wheat and barley. By 8500 B.C., they were no longer simply gathering wild cereals but planting and harvesting them; agriculture had begun.

Most explanations for the development of agriculture in Southwest Asia have invoked environmental change, or a disequilibrium between populations and resources. One view holds that the switch to colder and drier conditions in the Younger Dryas period (c. 10,800–9600 B.C.) caused a shrinkage in the stands of wild cereals on which the expanding hunter-gatherer communities had come to depend; the first evidence for the cultivation of einkorn falls at exactly this time, suggesting that the introduction of farming was a direct response to environmental scarcity. An alternative view, championed in particular by French archaeologist Jacques Cauvin, places more emphasis on symbolic and cognitive developments, arguing that the crucial change is

represented by the appearance of bull images and female figurines in the southern Levant during the tenth millennium B.C., indicating fundamental shifts in outlook and sociocultural organization among hunter-gatherer communities.

Göbekli Tepe

Recent discoveries at Göbekli Tepe in southeastern Turkey have given additional insights into the cultural and cognitive changes that accompanied the adoption of agriculture. This hilltop site contained circular semi-subterranean enclosures cut partly into the bedrock, each with a pair of carved limestone pillars at its center up to 5.5 meters (18 feet) tall. Radiocarbon dates showed that the main enclosures were in use for a period of several centuries from c. 9500 to c. 8500 B.C. The carvings on the pillars were of wild animals—boar, gazelle, foxes, snakes, and wild cattle—and it is clear that despite the elaborate architecture and symbolism these "shrines" were the work of a community who still relied on hunting, although they may have been cultivating and harvesting cereals on the nearby hillsides. Thus, agriculture was adopted by communities that were already in the grip of profound religious and cultural change. Perhaps it was the demands of the ritual practices performed at centers such as Göbekli Tepe, involving significant aggregations of people, that drove the first stages in the adoption of agriculture. If people came together every year for feasts and ceremonies, reliable sources of food would have been needed to support them. Intensive collection of local cereals for the builders, carvers, and celebrants may have led in the course of a few centuries to the development of domesticated strains of wheat.

FIGURE 3.0A Carved stone pillar from Göbekli Tepe in southeast Turkey, tenth millennium B.C. The intensive collecting of wild grain at sites such as this may have led to the adoption of agriculture. Chris Scarre.

Whatever the cause, the consequences of agriculture were enormous. One of the most significant was that it allowed the growth of larger settlements. Strictly speaking, the first villages in Southwest Asia were those of hunter-gatherers. A good example is Eynan in modern Israel, a group of circular huts occupied perhaps on a permanent, year-round basis. Similar villages have been excavated at Hallan Çemi in southern Turkey and Nemrik in northern Iraq. Once farming was established, sedentary settlements such as these multiplied in size and numbers, laying the foundations of all that was to follow in Southwest Asia and leading ultimately to the formation of the first cities.

These earliest farming settlements grew up in the band of territory known as the Fertile Crescent (see Chapter 2). Much of Southwest Asia, including most of central and lowland Mesopotamia, is arid and dry with insufficient rainfall to allow farming without irrigation. The exception is the hilly flanks, which do catch the rain at certain limited seasons and where farming is possible. These hilly flanks form a great arc extending from the Judaean hills of the southern Levant, swinging eastward across the upper reaches of the

Euphrates and Tigris, and then running southeast again down the Zagros Mountains toward the Persian Gulf. This, then, is the Fertile Crescent. An extension to the zone runs westward into the mountainous uplands of southern Turkey. All the early farming settlements of Southwest Asia lie within this zone, which also corresponds roughly with the natural distribution of wild wheat and barley, the early farmers' staple crops. Surprisingly, perhaps, the Urban Revolution that followed in the fourth millennium B.C. was centered not in these areas of rain-fed agriculture, but in the drylands of southern Mesopotamia, where irrigation was necessary. The earliest farming settlements, however, were in the rain-fed lands of the Levant, northern Mesopotamia, and southern Anatolia.

Two of the key settlements of this early farming phase are Jericho and Tell Abu Hureyra. At neither site are the earliest levels those of a full farming society. They nonetheless show the beginning of something that is larger than a simple village, as communities grew and prospered and became more populous.

Abu Hureyra

The early village at Tell Abu Hureyra took full advantage of the natural fertility and water supply of the Euphrates, one of the two major rivers of Mesopotamia. This site has been the subject of an excavation project specifically directed to the question of early farming and the transition from hunting and gathering. It is a settlement mound or "tell" containing the superimposed remains of several successive occupations. The earliest occupants of the site, c. 11,000 B.C., were not farmers, but hunted local gazelle and collected wild grasses and cereals. Thus, Abu Hureyra like Eynan was a hunter-gatherer village, occupied for perhaps a large part of the year, if not year-round. The secret here lay in the local resources: The site lay on the path of seasonal gazelle migrations, and the inhabitants were also able to exploit local stands of wild cereals and other steppe and valley bottom plants. With the onset of the Younger Dryas period from c. 10,800 B.C., however, the cooler drier climate led the community to adapt, and they began to cultivate the drought-tolerant cereal rye. This didn't prove sufficient, and the settlement was eventually abandoned.

The end of the Younger Dryas c. 9600 B.C. was followed by a return to a warmer and wetter climate, and a new village was established at Abu Hureyra

in c. 8800 B.C. The inhabitants now built themselves rectangular rather than circular houses, and they continued to rely on gazelle hunting even though they now grew cultivated wheat and barley. Suddenly, a few centuries later, gazelle were replaced by domestic sheep and goats. Thus, Tell Abu Hureyra in its later phases became a fully agricultural community.

Jericho

Jericho, in the Jordan valley, has claims to be the oldest town on earth. The earliest structure here was small, interpreted by some as a shrine, and lay beside the perennial "Spring of Moses" (Ain Musa). Nomadic bands of hunters and gatherers built this first structure, but within a thousand years their descendants were living in a permanent settlement on the site. This early permanent settlement, belonging to the so-called Pre-Pottery Neolithic A (PPNA) phase (8500–7300 B.C.), was relatively small—covering a mere 2.4 hectares (6 acres)—a cluster of modest circular houses beside the well-watered farmland around the spring. The inhabitants may already have begun to dig channels to take the spring water to their fields; although the area in which this can be done is very limited, cereal remains found by archaeologists show that their crops were flourishing. Within a few hundred years early Jericho was a walled community.

In the famous Old Testament story the walls of Jericho fell when the Israelite leader, Joshua, ordered the trumpets to be blown. That event (if based on historical reality) took place around 1000 B.C., and the wall of Jericho seen by the Israelites was a late successor in a lengthy sequence. The wall built by the earliest farmers of Jericho dates back to before 8000 B.C. It is a substantial dry-stone structure incorporating no less than 10,000 tons of building material, reinforced at one point by a circular tower over 9 meters (30 feet) high and solid in construction except for an internal stairway that gives access to the roof. In front of the wall runs a ditch cut into the rock, 8 meters (26 feet) wide.

When British archaeologist Kathleen Kenyon discovered this wall in the 1950s, she at once interpreted it as defensive. The farmers of Jericho, the argument ran, had accumulated wealth, perhaps in the form of grain stores, which they wished to protect from their still-nomadic neighbors. It is now accepted, however, that the famous tower was not designed as a defensive structure and may instead have been used for ritual ceremonies, such as the

exposure of corpses (a practice attested by the human remains from Jericho). Whichever explanation—defensive or ritual—is correct, it does not detract from the unprecedented scale of the Jericho wall, one of the oldest surviving achievements of communal village labor.

One further discovery at Jericho must be mentioned here: the plastered human skulls. These belong to the PPNB phase (7300–6500 B.C.). Defleshed skulls had been covered in plaster and modeled to portray living individuals, with cowrie shells inserted for the eyes. A number of these plastered skulls were found during Kenyon's excavations. They testify to a cult of the human head or, more likely, a cult of ancestors whose skulls were preserved and modified in this fashion. Plastered skulls have been found at other Levantine sites of the period, including Tell Aswad near Damascus, and Kfar HaHoresh in northern Israel. Further north, at the foot of the Taurus Mountains in southern Turkey, excavators in Çayönü, another pre-pottery village, have found an eighth-millennium building piled high with human skulls at one end. Once again, a special mortuary cult seems to be indicated.

At Jericho, the later layers of occupation that had built up over these earliest remains made it difficult to explore the layout of the earliest settlement. At other sites of the period, however, such as Jerf el-Ahmar in northern Syria, or Wadi Feynan 16 in southern Jordan, archaeologists have been able to excavate larger areas. This has shown that these sites were organized around a central communal focus. At Jerf el-Ahmar, the central focus was occupied by a large subterranean storage building still containing evidence of the barley, lentils, and rye it once held. This may have been the food store for the whole community, illustrating the tight social coherence of these early farming villages.

The chief significance of Jericho, Çayönü, and, to a lesser extent, Tell Abu Hureyra is that they show the degree of symbolic and ritual complexity attained by some of the earliest village communities in Southwest Asia. They form part of a growing body of evidence for cultural sophistication among early farming communities in Southwest Asia: wall paintings at ninth-millennium Ba'ja in southern Jordan and eighth-millennium Jerf-el-Ahmar, Halula, and Mureybit in Syria; lime plaster human figurines from Ain Ghazal in Jordan; engraved stones with symbols from Jerf-el-Ahmar.

Until recently, it was argued that farming had originated in one or two restricted areas within the Fertile Crescent—in the southern Levant, for example, or in southeast Turkey. The invention of mixed farming (including

plants and animals) had then spread from these centers throughout the whole region. Newer research, however, including new excavation in the Zagros mountains, is throwing new light on the process, suggesting that the origins of domestication were more diffuse and involved communities and wild resources throughout most of Southwest Asia. By 8500 B.C., the herding of domestic animals and the cultivation of domestic plants was widely established, and it was at this time too that it began to spread beyond the Fertile Crescent, to southern Turkey. Within a little more than 1,000 years, one of the largest and most striking of the early farming settlements had appeared in this region: Çatalhöyük, a site that has recently been subject to one of the largest excavation and research programs in prehistoric archaeology.

Çatalhöyük

This settlement, near Konya in southern Turkey, covers over 13 hectares (30 acres), an area far larger than its predecessors. It represents a large village or town. It is also notable for its curious agglomerated architecture, with houses built back-to-back without intervening streets. Access seems to have been across the flat rooftops, with ladders leading down into the houses themselves. When British archaeologist James Mellaart excavated the site between 1961 and 1965, he found a still greater surprise: About a third of the houses were decorated with elaborate wall paintings, plaster relief of sculptures, or benches incorporating bulls' horns. He called these decorated buildings "shrines," but recent work suggests these were not special religious structures but simply richly decorated houses.

A 25-year program of excavation at Çatalhöyük (1993–2018) led by archaeologist Ian Hodder has shown that the settlement was founded around 7100 B.C. and grew in size over several centuries, developing into an artificial mound or "tell" ("höyük" in Turkish) 19 meters high. This was formed through the successive building, demolition and rebuilding of the mud-brick houses. Many of the major Southwest Asian sites consist of mounds of this kind, testimony to use of mud-brick and to the success of communities that continued to occupy these sites for several centuries or sometimes millennia. Çatalhöyük is the oldest site of which we know that had been occupied on such a scale. None of these early settlements, however, can compare in size with the first cities that became established in southern Mesopotamia some

3,000 or 4,000 years later. It is the development of those cities that is the subject of Chapter 3.

CHAPTER 3

Mesopotamia

The First Cities (3500–2000 B.C.)

FIGURE 3.0B Statue of the Sumerian scribe Abikhil, superintendent of the temple at Mari, c. 2600 B.C. Peter Horree/Alamy.

The scribe smiled as the herd of livestock approached. Gripping the soft clay tablet in his left hand, with the reed stylus poised in his right, he stood ready to record the numbers of cattle as they passed. The beasts lowed gently as they made their way into the shelter of the temple wall: first, a group of grass-fed oxen from the pastures beyond the Euphrates; then six, fed on barley, from the neighboring villages to the west; finally, three, long overdue in payment of a debt by the temple of the god Enlil. Each group of animals was escorted by two young men, who plied long switches of alder to keep their charges moving. Bowing to the scribe, they turn by turn declared the number of cattle they had brought in tribute or debt payment to the great temple of Uruk, sacred to Anu, god of the firmament. They were looking forward to a jar of beer after their thirsty day's walk from the fields. The

scribe deftly recorded the number of cattle each had brought, carefully incising marks into the clay tablets. The herdsmen were familiar with the clay tablets but had no knowledge of the mysterious wedge-shaped signs he used. Writing, that revolutionary invention of early Mesopotamia, was as yet the preserve of a shaven-headed elite, the Sumerian scribes in their flounced woolen skirts, who administered the world's first cities.

CHAPTER OUTLINE

The Setting
Irrigation and Alluvium: Hassuna, Samarra, Halaf, and Ubaid (6500–4200 B.C.)
The Uruk Revolution (4200–3100 B.C.)
- *Cities and States*
- *Landscape and Cityscape*

The Early Dynastic Period (2900–2334 B.C.)
- *The Sumerians*
- *The Flood and the King-List*
- *The Early History of Sumer*
- *The "Royal" Graves at Ur (2600–2350 B.C.)*
- *New Developments in Northern Mesopotamia*
- *City Neighborhoods in the Third Millennium*
- *Urban Centers and Rural Complexity*

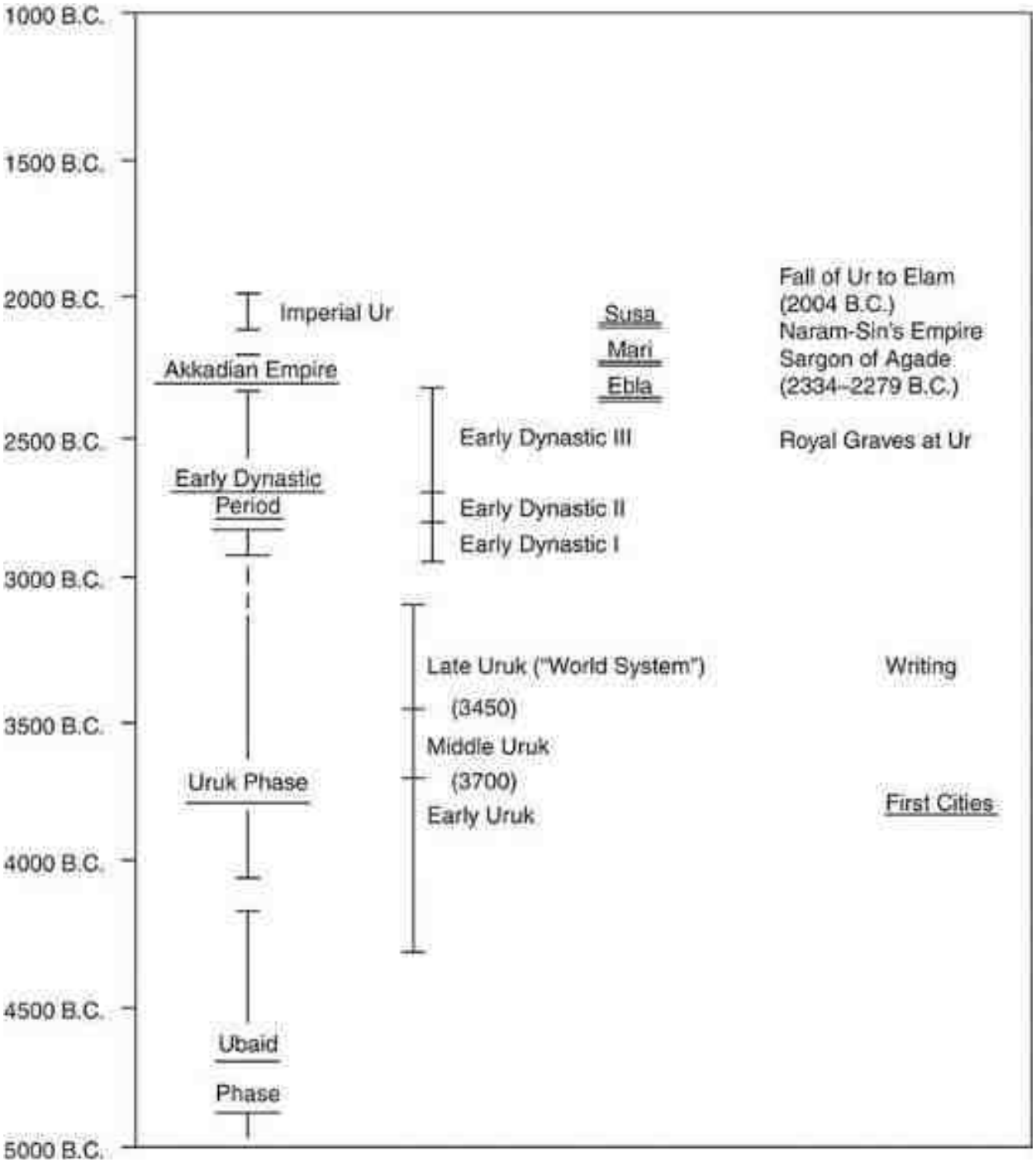
The Akkadian Empire (2334–2190 B.C.)
Imperial Ur (2112–2004 B.C.)
Wider Horizons (2500–2000 B.C.)
- *Mari and Ebla*
- *The Southern Levant*
- *Susa and Elam*

The city of Uruk and the invention of writing together stand at the heart of early Mesopotamian civilization. People had lived in village settlements for several thousand years, farming the fields around them, producing their pottery and food, and perhaps coming together from time to time for seasonal

feasts and festivals. But never before had they lived permanently together in such numbers—a concentration of several thousand people clustered cheek-by-jowl. Such a community was not simply larger than anything that had gone before. It involved a wholly different way of life, a society divided into craftspeople, farmers, and priests. Among these were scribes, the trained specialists who alone understood the wedge-shaped cuneiform signs used to record the multifarious commercial transactions of temple and city. At the base of the whole majestic edifice was the natural fertility of the Mesopotamian plain, the essential prerequisite for the emergence of civilization in these extensive riverine lowlands.

In this chapter, we review the development of Mesopotamian civilization, from its origins among the early farming societies of the region to the first empires of the later third millennium B.C. (Table 3.1). Key themes are the development of cities, the adoption of irrigation farming, and the invention of writing. Attention is also drawn to other aspects of urban life: monumental temples, elite graves, and large-scale warfare. And we seek to assess the contribution that early historical records can make to the study of Mesopotamian society during this key period. Another major theme is trade, for Mesopotamia was not a country turned in on itself but an active producer of manufactured goods and an avid consumer of raw materials, including metals and other minerals from the surrounding uplands.

TABLE 3.1 Chronological table of early Mesopotamian civilizations



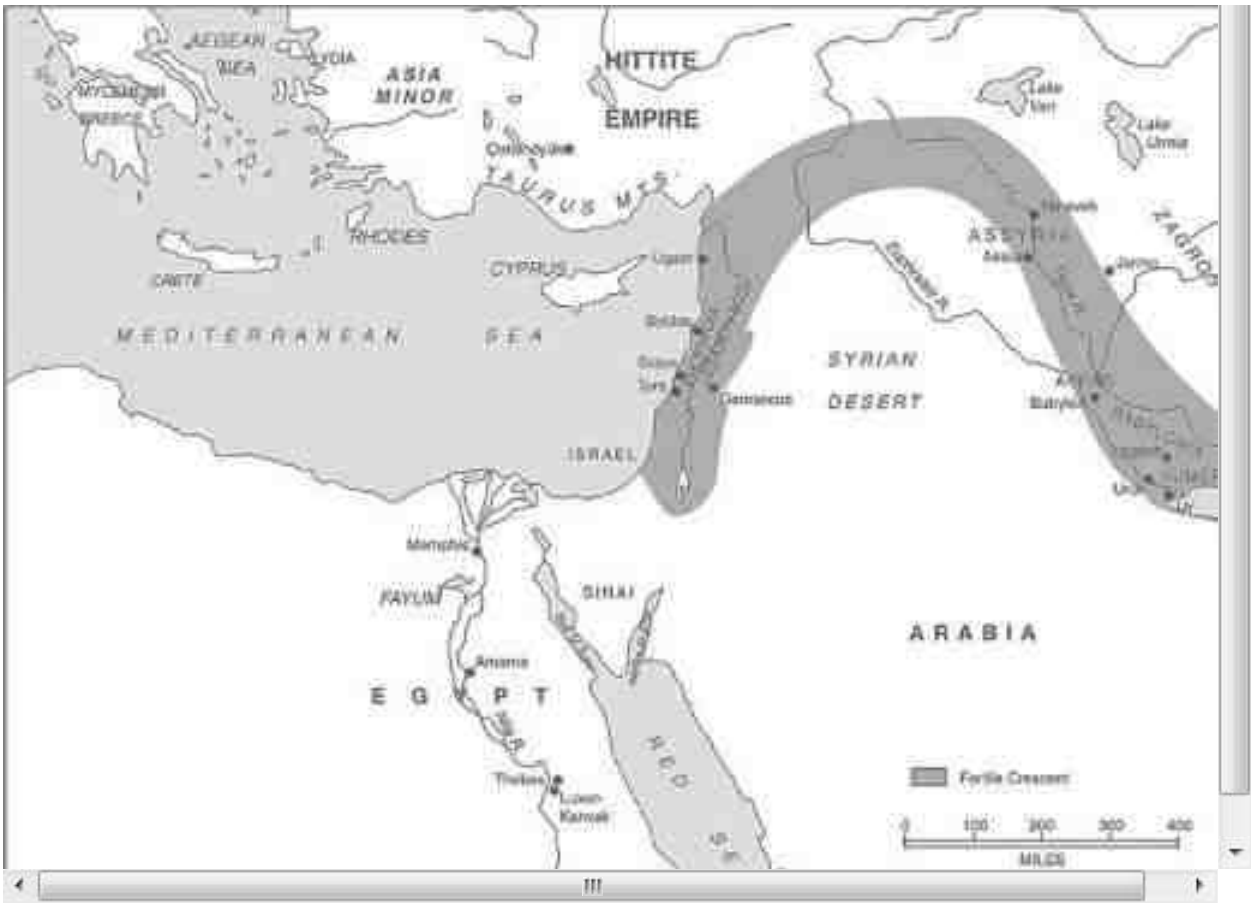
THE SETTING

Mesopotamia, "the land between the rivers," is a band of territory sandwiched between the mountains and uplands of Iran to the east and the arid deserts of Arabia and Syria to the west (Figure 3.1). Most of it would be

desert itself were it not for the two great rivers, the Tigris and Euphrates, which water it. The rivers rise in the mountainous terrain of eastern Turkey, where they are fed by winter rains and spring meltwater.

Mesopotamia is divided into an upper and lower plain. In the north, the upper plain becomes parched and brown during the hot, dry summers. But in the autumn, cooler temperatures and light rains turn northern Mesopotamia into a green and verdant plain suitable for the growing of cereals by rainfall alone. Downstream, by contrast, aridity gains the upper hand, even in the cooler months. Rainfall here is slight and undependable, averaging less than 200 millimeters per year, and is insufficient for growing crops. How, then, to live in such a hostile landscape? The answer is river water and irrigation. With irrigation, the alluvial soils of the lower plain can be farmed and their natural fertility unlocked. The result is high primary productivity—the ability to obtain high crop yields from relatively limited areas of land, sufficient to feed relatively dense populations.

FIGURE 3.1 Map of ancient Southwest Asia. The “Fertile Crescent” is indicated in grey.



In the 1950s, anthropologists such as Karl Wittfogel and Julian Steward put forward the theory that irrigation and control of water resources lay behind the development of riverine civilizations, such as that of Mesopotamia. Their argument was that the digging of canals required cooperative labor and some degree of central control. Furthermore, once the canals were dug, farmers became entirely dependent on irrigation water for their survival. This gave an enormous opportunity for community leaders to expand their power by exploiting control over the irrigation system, cutting off any who refused to accept their authority. We now know the picture is not so simple. The early stages of irrigation may, in some cases, have entailed the manipulation of natural branches of river channels. The plains of northern Syria and northern Iraq (northern Mesopotamia) provided vast areas for cultivation, on a scale that compensated for their relatively low yields, but in these areas, major irrigation systems were not dug until the Middle Assyrian period in the second millennium B.C. In southern Mesopotamia, however, the digging of canals and sluices to bring water to the fields, whether at the state

or more localized level, provided from the very outset the crucial infrastructure for Mesopotamian civilization.

IRRIGATION AND ALLUVIUM: HASSUNA, SAMARRA, HALAF, AND UBAID (6500–4200 B.C.)

By the seventh millennium B.C., farming villages were scattered throughout the Fertile Crescent, that arc of cultivable land stretching from the southern Levant across the broad sweep of the north Mesopotamian plain and down toward the Persian Gulf, skirting the edges of the arid zone. These villages were clusters of mud-brick houses whose occupants grew wheat, barley, and pulses and herded sheep, goats, cattle, and pigs. They also made pottery and had begun to experiment with copper metallurgy, exploiting veins and natural outcrops in the uplands of Anatolia and Iran. They were far from being isolated communities but rather were joined together in networks that are revealed by the spread of obsidian, a glassy stone used for sharp-edged tools that was brought by exchange from Anatolian sources in the far north to Jordan and southern Iran. Archaeologists are able to trace the path of obsidian supplies because each volcanic source has its own special chemical signature. Even small pieces can be identified in this way as coming from the plateaux of central Anatolia and the mountains of eastern Turkey around Bingöl and Lake Van. Community links are also made evident by the pottery styles, which are shared across different parts of the region and which allow these sites to be assigned to particular ages, or phases. For Mesopotamian developments, the most important of these phases are Hassuna, Samarra, Halaf, and Ubaid.

These phases or styles overlap somewhat in both space and time but can be considered to represent a succession of stages or periods. The proto-Hassuna style is the earliest, represented at sites such as Umm Dabaghiyah, Tell Sotto, and Kashkashok (early seventh millennium B.C.). It is followed by Hassuna (6500–6000 B.C.) in the north of Mesopotamia, running parallel with Samarra (6500–5900 B.C.) further south. Hassuna, in turn, was replaced by Halaf (6000–5400 B.C.), characterized by elegant painted pottery and in its later stage by the circular “beehive” houses excavated at Arpachiyah near Nineveh. Further to the south, Samarra gave rise to the Ubaid style (6000–4200 B.C.). At first confined to the southern plains, Ubaid spread north to

replace first the Samarra style and then, around 5400 B.C., the Halaf style of the north.

The villages of the Hassuna area, from around 6500 B.C., were clustered on the fertile, rain-fed plain of northern Mesopotamia. By the following Samarra phase (6500–5900 B.C.), however, farming villages were spread not only throughout the rain-fed zone but much further south, in the heart of Mesopotamia. To survive, the inhabitants would have managed the plentiful resources of the riverine and estuarine marshes and in favorable locations they would have needed to divert river water through irrigation canals to nourish their field. This indeed is what we find evidence for at Choga Mami, a Samarran site on the edge of the Mesopotamian plain, dating to around 6000 B.C. Archaeologists who excavated this site found remains of disused canal systems and types of wheat and barley that could only have been grown under irrigation. Another Samarran settlement, Tell es-Sawwan, consisted of multiroomed, mud-brick houses, with an inner group of buildings surrounded in its middle phase by a buttressed fortification wall. The buildings within the enclosed area were T-shaped and may have been grain stores. This suggests a high level of community organization. The burials at the site are richly furnished, suggesting that it was also a particularly wealthy community. The grave goods include materials that had been obtained through trade and exchange from distant sources: copper, obsidian, carnelian, and turquoise. Tell es-Sawwan is an early expression of the developments seen in more pronounced form in the late Ubaid and Uruk periods.

Samarran villages are confined to the central area of the Mesopotamian plain. It is a partly contemporary group, represented by material of the Ubaid period (6000–4200 B.C.) that first settled the southern plains. One of the earliest Ubaid sites is Oueili, a small farming village dated to around 6000 B.C. Oueili is assigned to an initial Ubaid 0 phase. Like its successors in this zone, it probably depended on irrigation agriculture, although it was located close to a seasonal marshland, which provided fish and other wetland resources. The success of the new irrigation farming economy became increasingly apparent as the Ubaid period progressed. At Eridu in southern Iraq, the occupation begins in the next Ubaid phase, labeled Ubaid 1. Here the excavators discovered a long sequence of mud-brick buildings. By the middle of the Ubaid period, these were elaborate structures with niches, buttresses, and altars, raised on mud-brick platforms—the ancestors in style and layout of the temples we find in the early historic period.

The Eridu temples underline the key role of religion in the formation of the first cities. A continuous sequence of temples from c. 5000 to 3000 B.C. dedicated to patron deities formed a focus of community attention and identity and also became powerful economic institutions, owning large areas of land. The end result was a kind of state religion, where the temple establishment was one of the major centralized institutions of the early Mesopotamian cities.

Ubaid people needed raw materials such as stone and metal, and other exotic or luxury materials that the alluvial plain could not provide. They soon established trading networks extending into the uplands to north and east of Mesopotamia and along the coast of the Persian Gulf to the south. In northern Mesopotamia, Ubaid pottery replaces regional types in the middle of the sixth millennium and coincides with a growth in the size of settlements there. There is even a possible Ubaid "colony" at Degirmentepe in eastern Anatolia. To the south, Ubaid pottery was carried by seaborne fishermen, or perhaps traders, down the coast of the Persian Gulf as far as the Straits of Hormuz and along the Iranian coast. These extensions to north and south suggest that the Ubaid zone had some of the qualities of an "interaction sphere." By settling the southern plains, the Ubaid communities were able to draw north Mesopotamia and the Persian Gulf (temporarily at least) into a single circuit of exchange.

Box 3.1 Discoveries *The Birth of Cuneiform*

The Mesopotamians were the first people in the world to devise a system of writing, using symbols inscribed on slabs of clay known as writing tablets. Its origins are thought to lie in the earlier use (from the early fourth millennium) of three-dimensional clay tokens that represented livestock or objects. A number of such tokens were sometimes enclosed in a clay sphere, or *bulla* (plural *bullae),* which was then marked with a seal impression. Denise Schmandt-Besserat, following suggestions of earlier specialists, has argued that these were records of commercial transactions and that it was the growing tendency to inscribe marks on the outside of the *bullae* to indicate their contents that led to the development of the earliest Mesopotamian writing system.

Why not simply dispense with the tokens and rely on the symbols inscribed in the clay?

The motivation for the development of writing lay in the need of the growing urban communities for new ways of recording and storing information to assist their accounting procedures. The temple economy —receiving goods and distributing rations—may have been one stimulus behind the invention. Temple scribes needed to know how much they had received, what was due to them and what was in store, and how much they should pay out in wages or rations. The first writing is very rudimentary in form: a series of symbols and numbers. These appear during the Late Uruk period (later fourth millennium) in various parts of Mesopotamia, from Uruk itself in the south to Tell Brak in the north. These earliest symbols need not be recording any particular language. They used clearly recognizable signs (pictographs) such as the head of a bull for cattle or an ear of barley for that particular cereal. Indeed, one reason for the invention of writing may have been the need for a common recording system that could be understood by people who spoke different languages. We know that in the early cities of Mesopotamia a number of different ethnic groups lived side by side, and the very earliest writing may have been designed to overcome language differences.

By 2800 B.C. this early use of symbols had developed into a system of regular cuneiform script used to record Sumerian (and later Akkadian) (Figure 3.2). The name derives from the Latin *cuneus* (a wedge) and refers to the wedge-shaped nature of the marks made by the wooden or bone stylus in the soft clay. The cuneiform signs were derived from the earlier pictographic script but were abstract and were no longer recognizable as actual objects. Each sign represented a sound or syllable.

FIGURE 3.2 Clay tablet with cuneiform script recording details of crops and fields, c. 2800 B.C. Dorling Kindersley/Getty Images.

Knowledge of cuneiform was restricted to a small group of trained professionals (scribes). Some were in the employ of a temple or palace, but writing was also used by merchants. Accountancy remained an important function of writing, but scribes soon realized the enormous potential of the new tool they had in their possession. Within a matter of centuries writing was being used for law codes, religious texts, literature, mathematics, and astrology. Cuneiform was widely replaced by the less-cumbersome alphabetic scripts during the fifth century B.C., but it survived until the first century A.D.

The Ubaid culture has been described as laying the foundation of Mesopotamian cultural identity. Leaving aside excursions into Anatolia and the Persian Gulf, the distribution of Ubaid material roughly conforms to the cultural boundaries of later Mesopotamia. It would be wrong to overstate the case, however, since there was significant variation between the different

regions of Mesopotamia even during the Ubaid period. And even this degree of cultural uniformity broke down during the fourth millennium, when northern and southern Mesopotamia went their own separate ways in the early Uruk period.

The Ubaid settlement of the southern plains of Mesopotamia transformed the earlier pattern of transitory hunters and gatherers and established villages of farmers instead. Once the strategy and technology of irrigation agriculture had been developed, there was scope for tremendous expansion, both in population size and in social and cultural complexity. Farmed in the right way, the Mesopotamian alluvial plains could yield amazing harvests. Such abundant crop yields formed the economic foundations of the first cities.

THE URUK REVOLUTION (4200–3100 B.C.)

Cities, states, and writing are three of the key features of civilizations or complex societies. In Mesopotamia they appeared together around the middle of the Uruk period, c. 3500 B.C. This marks the beginning of Mesopotamian civilization and was accompanied by a number of other significant developments: increasing craft specialization, the growth of centralized religious and secular control (temple and palace), and an expansion in trade between the south Mesopotamian plain and neighboring regions rich in raw materials.

The Uruk period lasted over a thousand years (4200–3100 B.C.) and saw the greatest transformation of Mesopotamia: the rise of complex societies and the foundation of the first cities. It was accompanied by other changes of equal significance, notably the invention of writing systems to record and control the complex activities of urban populations (see Box 3.1). Furthermore, these urban societies were not simply large agglomerations of villages but also a new kind of settlement with special political, religious, and economic institutions. The Mesopotamian cities were in fact city-states, political centers controlling their surrounding territory.

Cities and States

The concept of the city was an important innovation, not only in fourth-millennium Mesopotamia but also in all the other regions of the world where urban societies developed. At a basic level, it implies a concentration of

population, often too large to be supported simply by the produce of the fields in its immediate vicinity. A city will usually need to draw on a network of villages in the surrounding area to feed its population. The city, in turn, serves as a political, religious, and ceremonial center for this surrounding territory. In return for food, cities supply goods and services to the dependent villages, but they are often the dominant partners in an unequal relationship, able to impose their will on smaller settlements by sheer size of population. However, cities themselves grow out of the coalescence of smaller rural communities.

Cities are thus larger in both area and population than smaller rural settlements. They number their inhabitants in thousands rather than tens or hundreds. They are more complex than smaller settlements, with markets, manufacturing zones, and administrative machinery. Early cities both in Mesopotamia and Mesoamerica were often divided internally into separate zones based on kinship or occupation. Some may have been centrally planned, with a regular layout of streets and buildings, but many (including those of early Mesopotamia) developed in a more haphazard manner. Cities have a special sense of identity, one based not on kinship but on allegiance to the city and (in Mesopotamia and many other early societies) the city gods. This may be highlighted by the construction of a city wall, marking a clear division between the residents of a city and the rural population beyond. The city wall is a communal work of civil defense, built and maintained by the city dwellers for their own protection, though of course controlled to a degree by central authority. The same is true for the temple, a focus of civic pride and identity in many urban communities, with the citizens considering themselves under the protection of a particular patron deity.

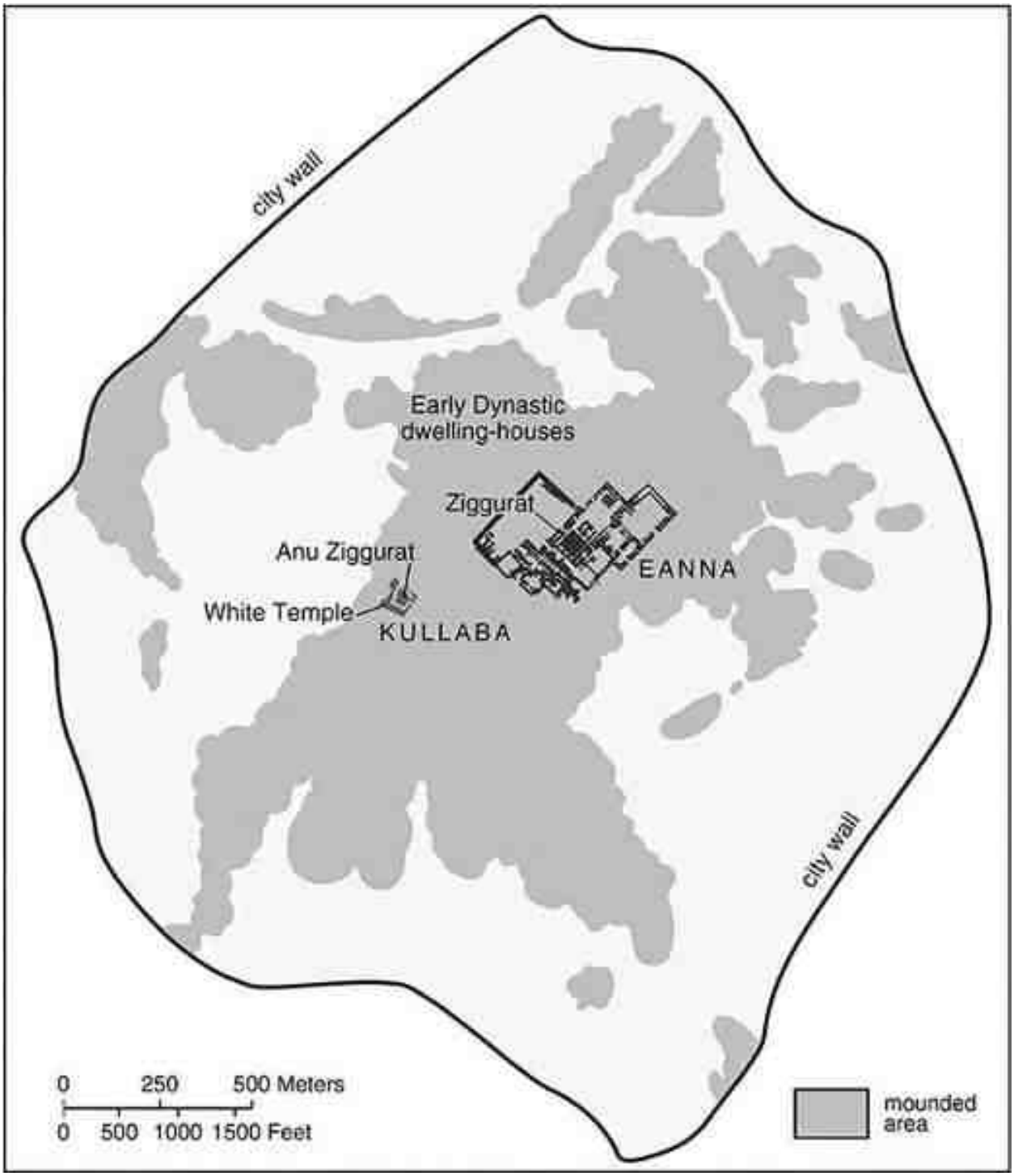
Alongside the city is the concept of the state. The greater complexity of urban living will by itself have accelerated the growth of central authorities. There will have been a greater need for organization and control to ensure the smooth flow of goods and services and to impose peace and security on the more numerous city dwellers. One aspect of this in Mesopotamia was the invention of writing as a tool of administration. Writing was developed by secular and religious authorities and by private individuals to document economic transactions that became too complicated to be handled conveniently by more traditional methods. The key feature of state formation, however, was the rise of central controlling institutions that cut across kinship lines. Indeed, the emergence of states can be defined by the

appearance of certain socioeconomic or government roles that are emancipated from real or fictive kinship, although kinship remained a major factor through most of Mesopotamian history. Our first evidence of new governmental institutions—the presence of palace and temple officials—in a Mesopotamian context arrived with the appearance of written records in the Late Uruk period. It is clear that by the last quarter of the fourth millennium, a number of city-states had developed in southern Mesopotamia. They were to increase in numbers in the centuries that followed.

During the Ubaid period, farming settlements had become established across most of southern Mesopotamia. The processes leading to the formation of the first cities and states become apparent during the Early and Middle Uruk periods (4200–3450 B.C.), when settlements increased in size and number. This shows that population levels were rising rapidly, taking advantage of the vast potential of the soil that was made available through irrigation systems. Larger areas of land were taken into cultivation by this means. The villagers farming these lands may already have had ties of religious allegiance or kinship, which bound them together into a larger political unit, a kind of proto-state. This development culminated in the middle of the fourth millennium, when in each proto-state one settlement assumed a size and importance far outstripping any ordinary village. It became, in effect, a small urban center.

The most important of these early urban centers was Uruk (modern Warka). This large and long-occupied site is dominated by two temple areas: the later shrine of Kullaba, dedicated to Anu, god of the firmament, and the early Eanna precinct, which later contained the shrine of Inanna (later known as Ishtar), goddess of love and war (Figure 3.3). The city may have owed its initial importance to its religious cults, which made it a focus for a wide surrounding area. Early texts reveal that other Sumerian cities were in the practice of sending ritual offerings to Uruk for the shrine of Inanna. The city may in fact have originated as two separate villages, each with its own cult center. Excavations in the Eanna precinct have revealed a whole series of temples and other public buildings stretching back into the fourth millennium B.C. These include the important columned hall in Level IVb, decorated with colored “cone mosaics.” These were large and impressive buildings, the work of an established elite, intended to instill awe and respect in the subject populace.

FIGURE 3.3 Plan of Uruk, showing the Kullaba and Eanna precincts.



The Eanna precinct at Uruk is justly famous for one other major find: the earliest clay writing tablets from southern Mesopotamia. Writing was at first

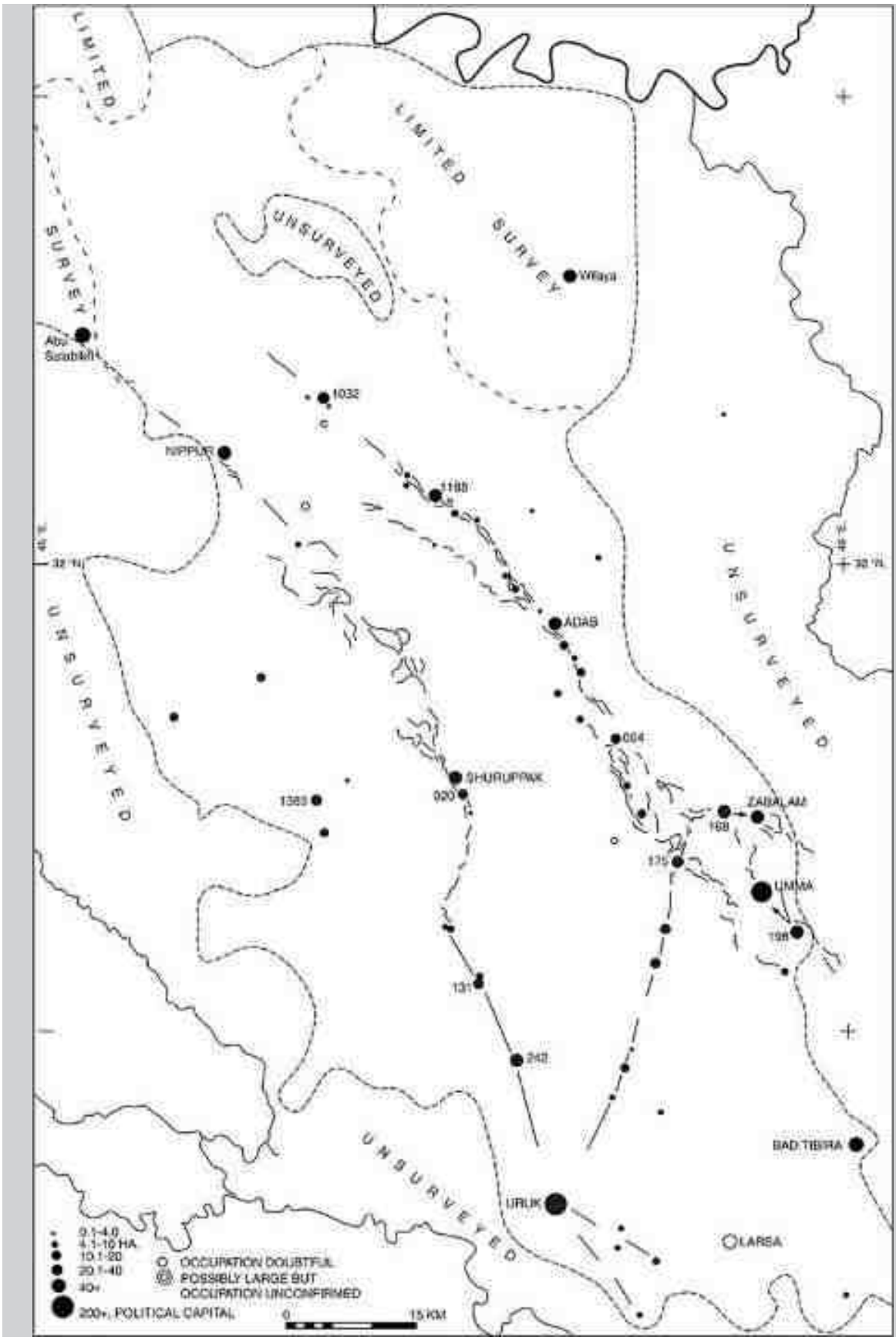
an elite activity, in the hands of a tiny group of trained scribes, but along with the extensive use of cylinder seals it indicates the new needs generated by the complexity of Mesopotamian urban societies (Box 3.2; see also Figure 3.5).

The formation and the rapid growth of the city of Uruk must have come about through a flow of population from the surrounding countryside. This process and its dramatic effects have been termed the "urban implosion" of Uruk. It was paralleled on a lesser scale at other sites throughout the southern plains, leading to the formation of competing centers that are the world's first cities.

Box 3.2 Sites *Anatomy of Settlement I—The Regional Level*

Robert McC. Adams of the University of Chicago's Oriental Institute surveyed ancient settlement and irrigation systems on the Mesopotamian plain between 1956 and 1971 (see Figure 3.4). This work has provided a wealth of information on the changing size and location of early Mesopotamian sites. Adams combined three approaches. First, he and his team patiently walked the landscape, recording details of even the smallest sites visible, such as low tells or pottery scatters. Second, he assessed the date and size of each site by studying the pottery that littered the surface. Third, he made full use of aerial photographs, including the Landsat satellite images that were just then becoming available. The aerial photographs were especially valuable in allowing Adams and his team to trace the courses of rivers and canals on which the cities of southern Mesopotamia depended for their existence.

FIGURE 3.4 Settlement patterns of the Akkadian period in southern Mesopotamia, from the survey by Robert McC. Adams and his team.


LIMITED SURVEY
UNSURVEYED
Wilaya
Abu Scabbill
1032
NIPPUR
1188
ADAB
004
SHURUPPAK
020
1383
ZABALAM
168
175
UMMA
198
131
240
BAD TIBIRA
URUK
LARSA
0.1-4.0
4.1-10 HA
10.1-20
20.1-40
40+
200+, POLITICAL CAPITAL
OCCUPATION DOUBTFUL
POSSIBLY LARGE BUT OCCUPATION UNCONFIRMED
0
15 KM

Adams's surveys give a thorough archaeological picture of the landscape of ancient Mesopotamia and its development from the appearance of the first cities to the arrival of Islam. They have enabled us to chart how rural village settlements were affected as populations became concentrated in cities. They have also thrown light on the shifting courses of the major rivers, especially the Euphrates. This appears to have been a branching river in ancient times, flowing in a number of parallel channels through the southern floodplain. Changes—probably natural—in the relative importance of the channels had major, and sometimes disastrous, impacts on the settlements along their banks. If one channel stopped flowing, irrigation water for the fields around the city would no longer be available and people would have to move elsewhere. The great city of Uruk suffered a serious, if temporary, decline at the beginning of the Akkadian period, a reversal that may have owed much to the growing importance of the eastern Euphrates channel that ran through Adab and Umma (Figure 3.4). The western branch, through Nippur and Shuruppak, may have been hit by water shortages. This reflects and perhaps helps to explain the fall in Uruk's political fortunes as the third millennium drew to a close.

In recent years, surveys have increasingly been undertaken on the rain-fed plains of northern Mesopotamia, balancing Adams's work in the south. These surveys show that in the Ubaid period, site densities were much higher in the rain-fed plains than on the southern alluvium, highlighting once again that the path to urban growth in southern Mesopotamia must have been extremely rapid.

Landscape and Cityscape

The impact of city formation on the rural settlement of southern Mesopotamia has been documented by the careful surveys conducted by archaeologist Robert McC. Adams (see Box 3.2 and Figure 3.4). These show that the landscape has changed in significant respects since the Uruk period. Satellite images have shown that the courses of the Tigris and Euphrates were not separate streams but ran much closer to each other than at the present day, and they joined, parted, and rejoined to form a braided river pattern as they

crossed the southern Mesopotamian plain. The coastline, too, has altered; the head of the Persian Gulf was in places up to 200 kilometers (125 miles) north of its present position in the fourth millennium B.C. This meant that early cities such as Eridu, Ur, and Uruk were much closer to the sea and would have been able much more readily to exploit marine, marsh, and estuarine resources. Elsewhere, cities and smaller settlements were usually close to the braided river channels, clustering in distinctive alignments along the riverine levees.

One of the surveys conducted by Adams focused on the area around Uruk. He concluded that in the Late Uruk period, Uruk itself was the only true urban settlement in the area, covering an area of up to 250 hectares (600 acres). Subsequent survey work has identified 18 settlements within 12 kilometers of Uruk, but none of these was larger than 15 hectares (37 acres), and most were smaller than 6 hectares (15 acres). This Late Uruk pattern may then be contrasted with the position 500 years later, during the Early Dynastic period. By this stage Uruk had grown into an enormous metropolis, covering no less than 400 hectares (1,000 acres), and was surrounded not only by rural villages but also by a network of towns and smaller urban centers. Uruk now stood at the center of a mature hierarchical settlement system, with dependent towns within its territory, each, in turn, surrounded by a cluster of smaller villages.

This hierarchical settlement pattern is one hallmark of a state, and it had become common throughout southern Mesopotamia by the early third millennium. The core of each state was an important city, with its ruling dynasty and protective patron deities. The state gathered taxes from its subjects and demanded conscripts in time of war. Some of the taxes were levied in the form of labor, which might have been used to farm state lands or to repair or expand the all-important irrigation system. The temples were the most impressive public buildings and were decorated in the Late Uruk period with cone mosaics. One of the main types was the temple raised on a high mud-brick platform for maximum visual and symbolic impact. A significant proportion of a city’s territory belonged to the temple or the palace, and large numbers of people were employed as their servants. Clay tablets were used extensively to record the dues and produce of the temple and palace economy, to allocate rations, and a little later to record religious myths (see Figure 3.5).

FIGURE 3.5 Cylinder seal and rolled-out seal impression. Cylinder seals first appeared in the Late Uruk period; these are distinctively Mesopotamian artifacts that consist of a small cylinder of stone carved with the reverse impression of a miniature figurative scene and often the name of an owner or official. The seal was designed to be rolled out on the surface of soft clay in order to leave a clear "signature." Along with writing, they show the concern for administration and control in the early cities of Mesopotamia. Cylinder seal impressions marked clay writing tablets (as evidence of their authenticity) and sealed jars, chests, or doorways. The carving of the miniature scenes was an intricate and sophisticated process. The scenes themselves are a useful source of information, including as they do gods and heroes, episodes from myths and legends, and everyday items like livestock or buildings. Cylinder seals remained in use throughout a wide area of Southwest Asia from the fourth millennium to the first millennium B.C. They also occur in foreign lands visited by Mesopotamian merchants, such as Egypt and the Indus. Dea Picture Library/De Agostini/Getty Images.

Writing was the preserve of a tiny percentage of the population in early Mesopotamian cities, mainly scribes in the service of the temple or palace. Control over writing and record-keeping strengthened the control of these central institutions over the workings of the city-state. Hans Nissen has suggested that this in itself helped promote the development of the state, allowing tasks to be broken up into a larger number of component parts, creating greater interdependence among the separate sections of the community and requiring centralized bureaucratic organization. Another indication of Late Uruk centralization that is very prominent in the archaeological record is a particular kind of pottery vessel known from its form as the beveled-rim bowl. These are so numerous that they constitute over 50 percent of the pottery assemblage on some sites. They have been interpreted as bowls for the distribution of rations to temple or palace workers. If this is correct, these vessels provide graphic illustration of the scale of centralized labor organization in the Late Uruk period.

Temple and palace were the twin centralized institutions of the early Mesopotamian cities. In certain respects, they were interdependent. Most rulers, for example, needed ritual sanction to confirm their legitimacy. At the same time, temple priesthoods could be direct competitors for political control. We know of at least one historical instance in which the temple priesthood mounted a successful coup against royal power.

Yet temple and palace were not the only forces in the early Mesopotamian city. There were also the leading families, who controlled extensive private property. It is possible, indeed, that at the outset all that did not belong to the king or temple was the communal property of a clan and was effectively in the control of clan elders. The cities no doubt drew their kings and rulers from these leading clans. At the time when written information became available, however, a major transformation was underway, with leading families acquiring and disposing of land as if it were privately owned. The buying and selling of land became a normal and accepted activity in Mesopotamia from this time on, though people continued to live in extended family units, as is shown by the large houses of Abu Salabikh and other excavated cities.

Early texts emphasize the importance of community power in the Mesopotamian cities. This is demonstrated by references to councils of elders in writings such as the *Epic of Gilgamesh.* Although the earliest surviving version of the Gilgamesh text is of a later date, Gilgamesh is a known

historical king of Uruk, and the text may well reflect the situation prevailing in Uruk and other cities in the fourth and early third millennia B.C. The presence of the councils suggests that these cities were still in some sense in a transitional stage, where overall control was in the hands of an individual ruler but traditional law and settlement of legal disputes were usually left to community elders.

Most of the ancient cities of southern Mesopotamia survive today as tells —settlement mounds consisting of layer upon layer of collapsed mud-brick. As houses decayed, they were simply leveled to make way for new ones since the material for construction was so readily at hand (Box 3.3). We have already mentioned the temple platforms as being the most conspicuous feature of these city sites. Over succeeding generations they were extended and rebuilt, and many of them eventually took the form of the towering step-like ziggurat (temple platform) first seen at Ur (see Figure 3.11). Palaces, too, have been excavated at a number of sites, including Ur and Kish. As public works, however, they are less impressive today than the city walls built during the early third millennium to defend these cities from attack by their neighbors. It was the walls of Uruk that drew praise from the author of the *Epic of Gilgamesh*, who remarked on their solid core of oven-fired (rather than mud) brick. This substantial defensive circuit, which may indeed have been built by the historical Gilgamesh, measured no less than 9.5 kilometers (6 miles) in length (Box 3.4).

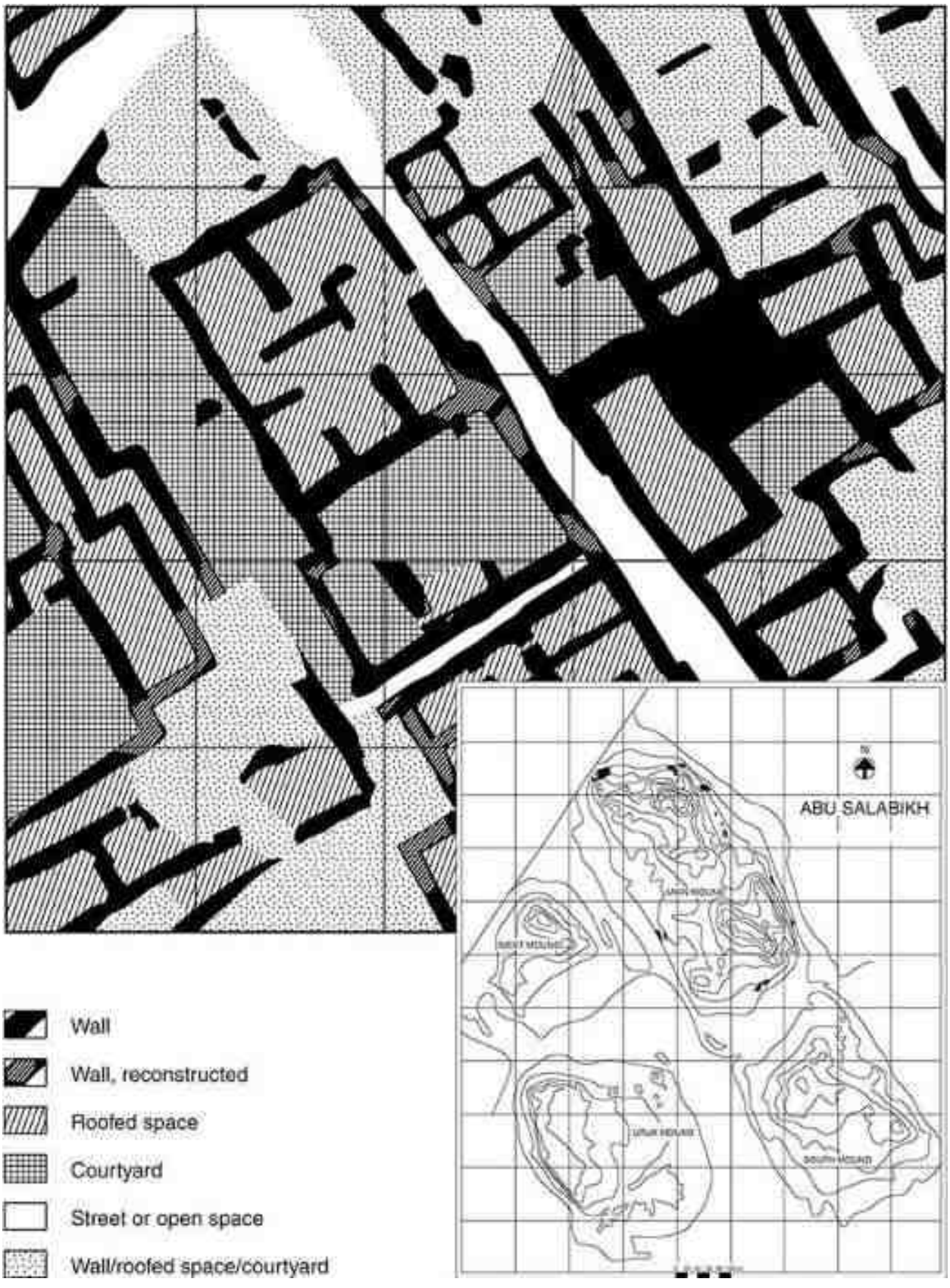
Box 3.3 Sites *Anatomy of Settlement II—The Early City*

Most early Mesopotamian cities were continuously occupied for several thousand years, which means that all too often the third-millennium layers are hidden beneath the accumulated building debris of later centuries. This makes it very difficult to gain any idea of the plan of an Early Dynastic city. Furthermore, since archaeologists have usually concentrated their efforts on the major public buildings, very little indeed is known of the ordinary houses and residential areas. An exception is the site of Abu Salabikh, which was excavated by British archaeologist Nicholas Postgate from 1975 to 1990. Here erosion had conveniently removed the later deposits. The mud-brick walls of the third-millennium buildings could be revealed simply by scraping the

surface of the mound with shovels, thereby exposing the plan of large areas of the city. Analysis of floor deposits has been used to distinguish streets, roofed spaces (rooms), and open courtyards (plus a residual "uncertain" category) (see Figure 3.6).

The houses of ancient Abu Salabikh were crowded together, with few clear thoroughfares; that remained true of many Mesopotamian cities until the advent of motorized transport. Many houses were of substantial size, consisting of six or more good-sized rooms grouped around a courtyard, and may have housed as many as twenty people. Of these, some may have been servants and retainers, but textual sources suggest that early Mesopotamian households sometimes took the form of an extended family or kin group, and this may explain the large size of the house compounds at Abu Salabikh.

FIGURE 3.6 Plan of a 50–meter by 50–meter (164–foot by 164–foot) square excavated at Tell Abu Salabikh in southern Iraq, showing the division into streets, courtyards, and roofed spaces.


ABU SALABIKH
Wall
Wall, reconstructed
Roofed space
Courtyard
Street or open space
Wall/roofed space/courtyard

Box 3.4 Voices: Gilgamesh, King of Uruk

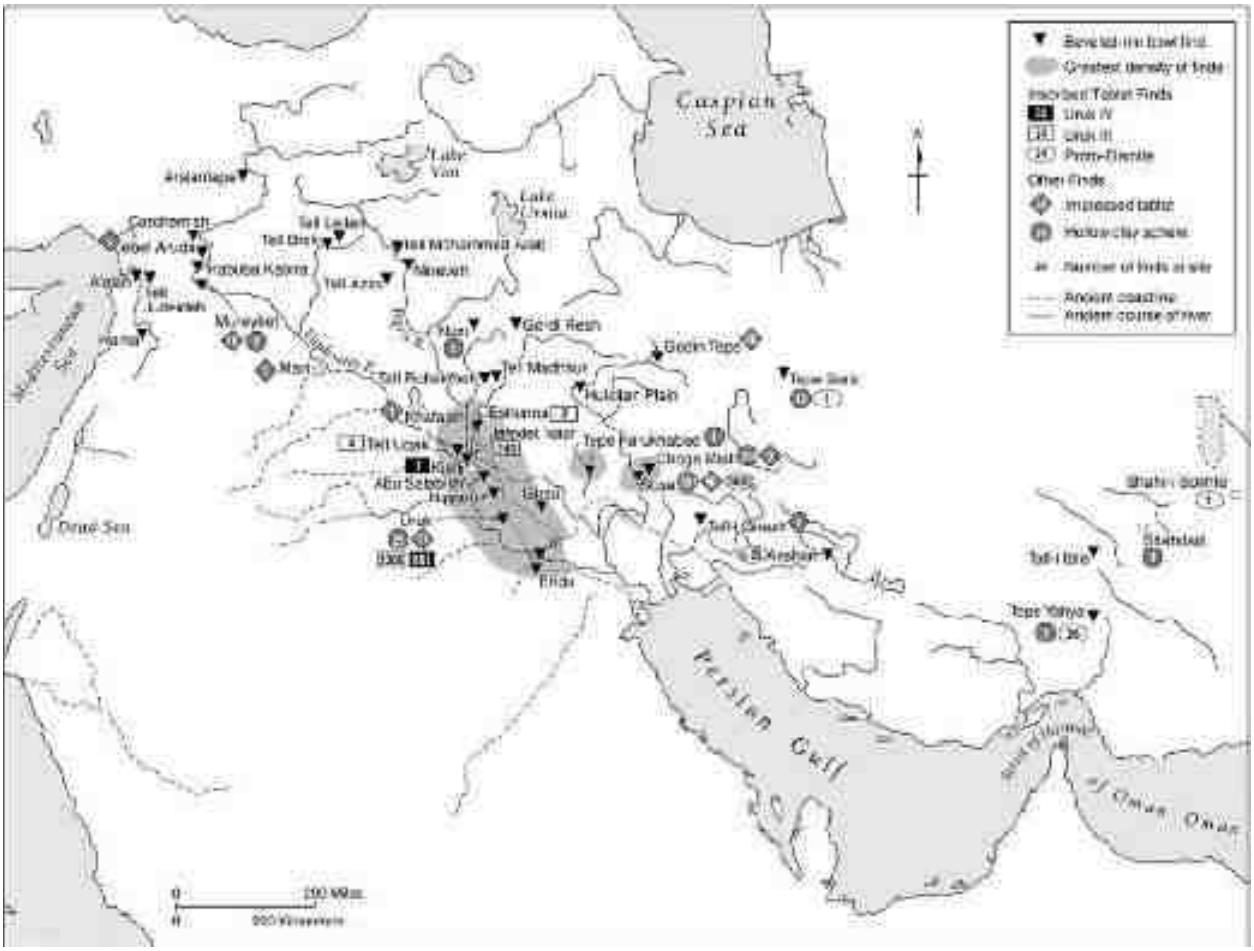
Gilgamesh, a semi-legendary king who sought the secret of immortality, was king of Uruk in c. 2600 B.C. and is credited in the famous *Epic of Gilgamesh* with having built many of Uruk's city walls, remains of which still survive today. The *Epic* opens with a description of the wonders of Uruk, inviting the reader to climb the great stairway to the temple of the city's patron deity, the goddess Ishtar. Particular praise is reserved for the city wall, and the description continues with an account of the city's layout, as if the reader was walking along the ramparts with the city itself lay spread out before one. We are told that one-third of the enclosed area was date groves, and one-third was occupied by brick pits, leaving only a third of the area covered by houses and other buildings. The remains of the Uruk city wall extend for no less than 9.5 kilometers (6 miles), but it is clear that only part of the enclosed area was built up.

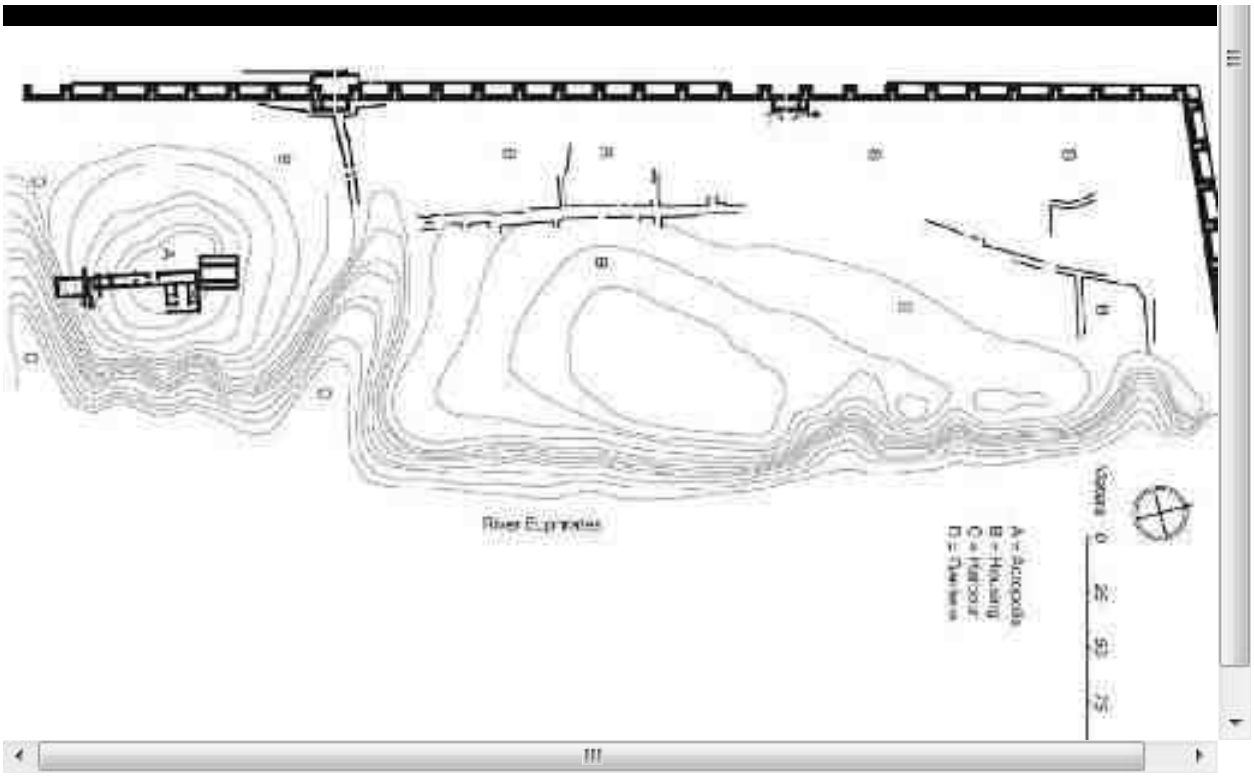
Today, the ruins of ziggurats loom over the level dusty plains—dusty because in most cases the rivers and canals no longer run near the ancient city sites, which now stand in arid desert. Centuries of intensive agriculture completed the work, laying a salt crust on the fields as the irrigation water evaporated.

The Uruk World System (3450–3100 B.C.)

The first cities were founded in the south and had their greatest impact there. The size of their populations, however, sent ripples of influence far afield. This is the tale revealed by remarkable evidence from sites in northern Mesopotamia, in southeast Anatolia, and on the eastern fringes of the Mesopotamian lowlands. These key areas adopted a range of Uruk features and were basically enclaves of Uruk influence some distance from the Uruk heartland. The most famous site is Habuba Kabira, on the banks of the Euphrates in Syria (see Figure 3.7a and b). This was a substantial settlement, stretching for almost a mile along the bank of the river and defended by a stout brick wall. Its temples were built on a plan familiar from southern Mesopotamia. Even minor artifacts conform to typical southern styles.

FIGURE 3.7A Map showing the extent of Uruk influence in Southwest Asia.


Caspian Sea
Lake Van
Lake Urmia
Persian Gulf
Gulf of Oman
Dead Sea
Uruk
Habuba Kabira
Jebel Aruda
Mashnaqa
Hamoukar
Tell Brak
Nineveh
Mari
Godin Tepe
Tepe Yahya
Susa
Shahr-i Sokhta
Tell-i Iblis
Hulaifa Plain
Tell Leilan
Tell Mozan
Tell Sheikh Hamad
Tell Beydar
Tell Khuera
Tell Hamoukar
Tell Brak
Tell Nineveh
Tell Mashnaqa
Tell Jebel Aruda
Tell Habuba Kabira
Tell Qannas
Tell Madhur
Tell Ashara
Tell Sheikh Hassan
Tell Uqair
Tell Abu Salabikh



Three separate theories have been proposed to account for these enclaves. The first sees them as colonies established by Uruk traders and settlers. Thus, Habuba Kabira has been interpreted as a colony of south Mesopotamian merchants, established far from the homeland in an attempt to secure vital raw materials from the less-developed margins of Tigris and Euphrates valley. The problem for the early cities of the south was access to raw materials such as metals, hard stone, and timber. The south Mesopotamian plains were rich in agricultural potential but had no resources of these kinds, which were largely the product of more mountainous regions. Once the south Mesopotamian centers had grown to urban proportions, the need for raw materials would have become acute. This need was satisfied, during the Uruk period of the fourth millennium, by the establishment of long-distance trade routes secured by Uruk-influenced centers at crucial points. Habuba Kabira is one example. Uruk influence is also strong at Susa, on the eastern plains of south Mesopotamia; at Nineveh, on the Tigris; and at Tell Brak, in the north. It is argued that in each zone colonies of Uruk merchants tapped into existing localized exchange networks.

Not all of these were new settlements like Habuba. Nineveh and Tell Brak had been important regional centers for many centuries. By the middle of the

fourth millennium, indeed, Tell Brak had grown to cover an area of 130 ha, around half the size of Uruk (250 ha) at that same period. Tell Brak and the other northern sites, however, were drawn into the Uruk sphere of influence, with beveled-rim ration bowls and other Uruk pottery, Uruk-type clay sealings, and at Tell Brak clay writing tablets even slightly earlier than those from Uruk itself. But these do not seem to have been locally inspired developments. They reflect a massive increase in commercial and cultural influence as merchants of south Mesopotamia sought to secure their supplies of vital raw materials from the uplands of Anatolia and Iran.

American archaeologist Guillermo Algaze has labeled this sphere of Uruk influence a “world system.” This term is meant to indicate that the cities of south Mesopotamia and the surrounding less-developed regions were integrated into a single economic unit in which the southern cities played the dominant role, with the rest acting as a supporting or supply area. There is no suggestion that this was a unified empire. Eventually, however, the peripheries themselves developed under Uruk influence to the point where they reasserted their own political and economic personality.

Others have argued for a rather different view of these Uruk-influenced enclaves. They reject the world system hypothesis on the grounds that there is a near-complete absence of any of the supposedly traded materials at these supposed trading centers. Even if the bulk of the materials were being passed on to the cities of south Mesopotamia, we would still expect to find some trace of their passage in the trading centers set up to obtain them. A recent analysis of pottery from several sites in northern Mesopotamia and on the Susa plan of southwestern Iran showed no evidence that pottery (and by extension, what their contents) was moving from these supposed “supply” areas to the Uruk heartland in southern Mesopotamia. It may instead be that these peripheral “colonies” were indigenous regional centers that chose to adopt Uruk styles and artifacts to give them an advantage in prestige competition with their neighbors. This interpretation reverses the dynamic of the world system model, suggesting that it was not Uruk populations that sought trade goods around the peripheries of Mesopotamia but peripheral centers that were seeking Uruk artifacts from the south Mesopotamian heartland.

Whatever the impact of the Uruk expansion, it is increasingly clear that cities had developed in the north by the middle of the fourth millennium, and may have been an indigenous development. It may thus be that we should

envisage series of parallel developments in the fourth millennium, leading to cities, states, and writing in both northern and southern Mesopotamia and on the lowland Susiana plain of southwestern Iran.

By the end of the Uruk period around 3100 B.C. we are tantalizingly close to the beginnings of history. There are written records, but these are economic or administrative in character and tell us little about the political developments of the time. Late Uruk was followed by the Jemdet Nasr period (3100–2900 B.C.), named after another site in southern Mesopotamia. By then, the important early cities of the Mesopotamian lowlands were growing and flourishing, and the framework of Mesopotamian civilization had been established. The historical background only becomes clear, however, during the Early Dynastic period (2900–2334 B.C.), the age that witnessed the apogee of the Sumerian city-state.

THE EARLY DYNASTIC PERIOD (2900–2334 B.C.)

The Early Dynastic period marks the beginning of historical records in ancient Mesopotamia. Around 2900 B.C. early writing became standardized into the cuneiform script that was to be used in Southwest Asia for the next three millennia. The Early Dynastic period was also the first great age of the southern city-states, a time when the Sumerians were the dominant force in Mesopotamian culture and politics. It ends with the conquests of Sargon, king of Akkad (2334–2279 B.C.), and the establishment of the Akkadian empire.[1]

The Sumerians

Mesopotamia at the dawn of history was remarkable in one major respect. It had a common culture—a single system of writing and a single pantheon of major gods—but in population it was multiethnic and polyglot. Furthermore, it was far from being a unified state, as, say, was ancient Egypt (see Chapter 4). Instead, it was divided into a pattern of city-states, each notionally independent of its neighbors. There were at least two dozen major cities on the alluvial plains of southern Mesopotamia, each with a major temple to its principal or patron god and each surrounded by a stout brick wall to defend it from its neighbors.

Southern Mesopotamia was itself divided into Sumer in the south and Akkad in the north. Sumer extended from the mouth of the Persian Gulf in

the south; Akkad was the territory north of this to the “narrows,” where today the Tigris and Euphrates converge, in the neighborhood of modern Baghdad. Near the junction of Sumer and Akkad, thus centrally placed within the urban landscape, lay the city of Nippur, the most important religious center of the region. Control of Nippur was a vital element in Mesopotamian politics; the ruler of any city who was seeking preeminence over his neighbors had first to secure this sacred city. Those who were successful built shrines at Nippur to signal their devotion to the preeminent god, Enlil, whose main temple was there, and to proclaim their authority. In the Mesopotamian scheme of things, where the hierarchy of kings on earth mirrored the hierarchy of gods in heaven, it was only right that the dominant ruler of southern Mesopotamia should associate himself publicly with Enlil, the god who at that time was head of the Mesopotamian pantheon.

Nippur was a Sumerian city and Enlil a Sumerian god. To call them “Sumerian,” however, is to say more than that they came from Sumer, the southernmost part of the Mesopotamian plain. The Sumerians were a people, one of the major ethnic groups of early Mesopotamia, with their own language and cultural identity. Sumerians were the dominant force in the cities of Ur and Uruk; they provided the first historical ruling dynasties, and their influence spread far afield to Mari in the north and onto the Iranian plateau in the east.

Who exactly the Sumerians were has been much disputed. Many earlier writers thought they were originally from outside Mesopotamia itself and had migrated onto the fertile plain where they founded the first cities. It is more likely, however, that they were the indigenous inhabitants of the region, possibly the ancestors of the modern Marsh Arabs who live among the extensive reed beds and lagoons of the southern fringe of Mesopotamia. Sumerian sealstones show elaborate buildings (probably houses or cattle byres) built of bundles of reeds, very similar to those of the Marsh Arabs in recent times.

For generations, archaeologists assumed that the Sumerians were the sole founders of Mesopotamian civilization. This has changed with new discoveries in northern Mesopotamia, which show that cities were developing there, too, even before the spread of Uruk culture and the establishment of the proposed Uruk world system. Even in the south, the Sumerians were accompanied by speakers of Semitic languages, and Sumerian culture appears to have been founded by the two together. The role of the Sumerians

has hence to be reassessed. They were in fact merely one of several peoples involved in the formation of the first Mesopotamian cities. But they were still enormously influential, and it was they who invented writing and many other key features of general Mesopotamian culture.

The Flood and the King-List

The earliest Mesopotamian writing was used only for accountancy and inventories; we must wait until the third millennium for the first historical records. These are encapsulated largely in a single document, the king-list, which in its final version was compiled by Mesopotamian scribes around 1800 B.C. It consists of a long series of terse statements, each beginning with a city name and announcing a new dynasty; then the various rulers of that dynasty (on the lines of "A reigned *x* years, B reigned *y* years"); then at the end of each dynasty, the phrase "that city was smitten with arms, the kingship was taken to its successor."

This is not promising material from which to construct a detailed history of Mesopotamia during the third millennium, but it does provide a basic skeleton of rulers, which can be related to finds of inscriptions and sealings that bear their names. We can also relate the individuals to the cities from which they came.

The king-list does in fact begin long before this, with a legendary series of kings who ruled "before the Flood." The flood in question is the Mesopotamian equivalent of the biblical flood associated with Noah, and it is clear that both legends belong to a body of material widespread in Southwest Asia during the third and second millennia B.C. In tablet XI of the *Epic of Gilgamesh*, Utnapishtim, the Sumerian Noah, tells Gilgamesh the story of the Flood. He tells of the black cloud that appeared at dawn, with Adad the storm god thundering within it. The deluge followed. Erragal god of the underworld and Ninurta god of war breached the dikes and flooded the land, aided by the Annunaki, the sons of the sky god Anu, carrying their flaming torches. For a third-millennium Sumerian listener this was a truly terrifying array of menacing deities. The resulting devastation was total, with strong winds driving the flood, until even the gods themselves became afraid of what they had done. They withdrew to the safety of the heavens. At length the waters receded, but of all humankind, only Utnapishtim and his family survived, along with the animals he had saved in his ark. The story serves both as a

moral tale, a warning to people of the immense power of the gods, and a reminder of the violent storms to which southern Mesopotamia is occasionally subject during the winter months.

In Mesopotamian (as in biblical) legend, the Flood was an event that had befallen many centuries before. Whether it refers to any real environmental catastrophe has long been debated. The issue was given special prominence by the British archaeologist Sir Leonard Woolley. In 1929, during his excavations at Ur, Woolley found 3.4 meters (11 feet) of clean, water-laid (or even windborne) silt in a deep sounding. His immediate thought was that these must be sediments laid down by the biblical Flood. The claim was soon dismissed—the silt proved to have come not from *the* Flood but simply from *a* flood, one of the many that have periodically afflicted the low-lying plains of southern Iraq. Archaeology provides no evidence of a single widespread catastrophe on the scale suggested by the Flood legend. Recent attempts to locate it in the Black Sea area are no more convincing than many earlier theories. Most scholars today regard it as simply a legend, although floods were endemic to southern Mesopotamia and would have led to periodic catastrophes. Whatever its reality, however, it assumed great importance for the Mesopotamian scribes, who used it as a crucial event in dividing their list of kings into two parts—the hazy rulers before the Flood and the historical personages who came after it.

The Early History of Sumer

When the waters subsided and the gods restored kingship to the earth, it came to rest at the city of Kish. This first dynasty of Kish consists of otherwise unknown rulers with impossibly long reigns, that is, until we arrive at the twenty-second king of Kish, Enmebaragesi. He, too, has an improbable tally of years—900 according to the king-list—but at this point the mists of uncertainty begin to clear since Enmebaragesi is known not only from the king-list but also from an inscription made during his lifetime and found at the city of Tutub (modern Khafaje). This provides a crucial link between the king-list and archaeology and forms the starting point of Mesopotamian history.

The reign of Enmebaragesi is now dated to around 2600 B.C. Although from this point onward we are on firmer ground, the evidence of the king-list is brief and gives only occasional details of historical events. The king-list is

most valuable in giving an insight into the political structure of early Mesopotamia. The archaeology presents a pattern of city sites scattered over the Mesopotamian plains. Some are larger, some smaller, but there is nothing in the archaeology itself to tell us whether we are dealing with a single state ruled by one dynasty of kings from a major capital or, conversely, a series of totally autonomous city-states, each with its own rulers and territory. The king-list reveals two crucial facts: on the one hand, that the cities had grown up as politically independent centers (city-states) and, on the other, that there was the concept of a unified kingship, whereby one city and one dynasty were overlords of the others.

The first overlords after the Flood were the kings of Kish, as we have seen. But not all cities were content simply to accept this situation. Shortly after 2600 B.C. the ruler of Kish—Agga, son of Enmebaragesi—was faced with a rebellion by one of his most powerful subjects, Gilgamesh, king of Uruk. Gilgamesh refused to recognize Agga as overlord, but when the king of Kish advanced to besiege Uruk it was Gilgamesh who gained the upper hand, and Agga became his vassal. Thus, the kingship passed from Kish to Uruk.

Struggles for supremacy among the major cities of southern Mesopotamia continued throughout the middle centuries of the third millennium (Figure 3.8). Kings of Kish, Uruk, Ur, and other cities successively held sway and then were obliged to cede overall supremacy to one of their rivals. The pattern of shifting hegemonies and alliances gives the history of the period a kaleidoscopic quality.

FIGURE 3.8 The Stele of the Vultures, commissioned by Eannatum, ruler of Lagash, c. 2450 B.C. Heavily armed infantry, with spears, shields, and helmets, advance in phalanx formation, trampling underfoot the corpses of their enemies. Such stelae proclaim the power and militarism of the Early Dynastic kingdoms. Musée du Louvre/Bridgeman Images

The “Royal” Graves at Ur (2600–2350 B.C.)

When Sir Leonard Woolley arrived at the site of Ur in southern Mesopotamia in 1922 he could hardly have anticipated the remarkable discoveries that were to follow. The city, famous in biblical terms as the supposed home of Abraham, was marked by the remains of a ziggurat. Woolley began his investigations by digging a cautious series of exploratory trenches to define the edges of the sacred area around the ziggurat. Soon, gold beads began to appear in one of these trenches, and Woolley became aware that he was on the verge of a major find. He judged that his local workmen were not yet sufficiently experienced, and with commendable patience he waited five years more before returning to the “gold trench” to renew his excavations.

When he did so, he was confronted by a staggering array of graves, some of them richly furnished. The contents remain to this day the masterworks of early Mesopotamian craftsmanship.

The Royal Graves at Ur formed part of a large cemetery of the middle to late third millennium (c. 2600–2100 B.C.) located just outside the Sacred Precinct, to the south of the great ziggurat. Woolley divided the graves into two groups: those that were poorly furnished, which he ascribed to the "common folk" of Ur (at least 2,000 in number, perhaps as many as 8,000 altogether), and the sixteen spectacular Royal Graves that he attributed to the ruling dynasty of Ur. Whereas the ordinary graves were simple pits, containing a body wrapped in matting or placed in a coffin of wood or clay, the Royal Graves had elaborate burial chambers of brick or stone. They were also distinguished by the wealth of accompanying offerings and by a more grisly feature: an array of human sacrifices. One grave held the remains of as many as seventy-four attendants, who may have been drugged or poisoned before burial (see Figure 1.5, and Box 3.5).

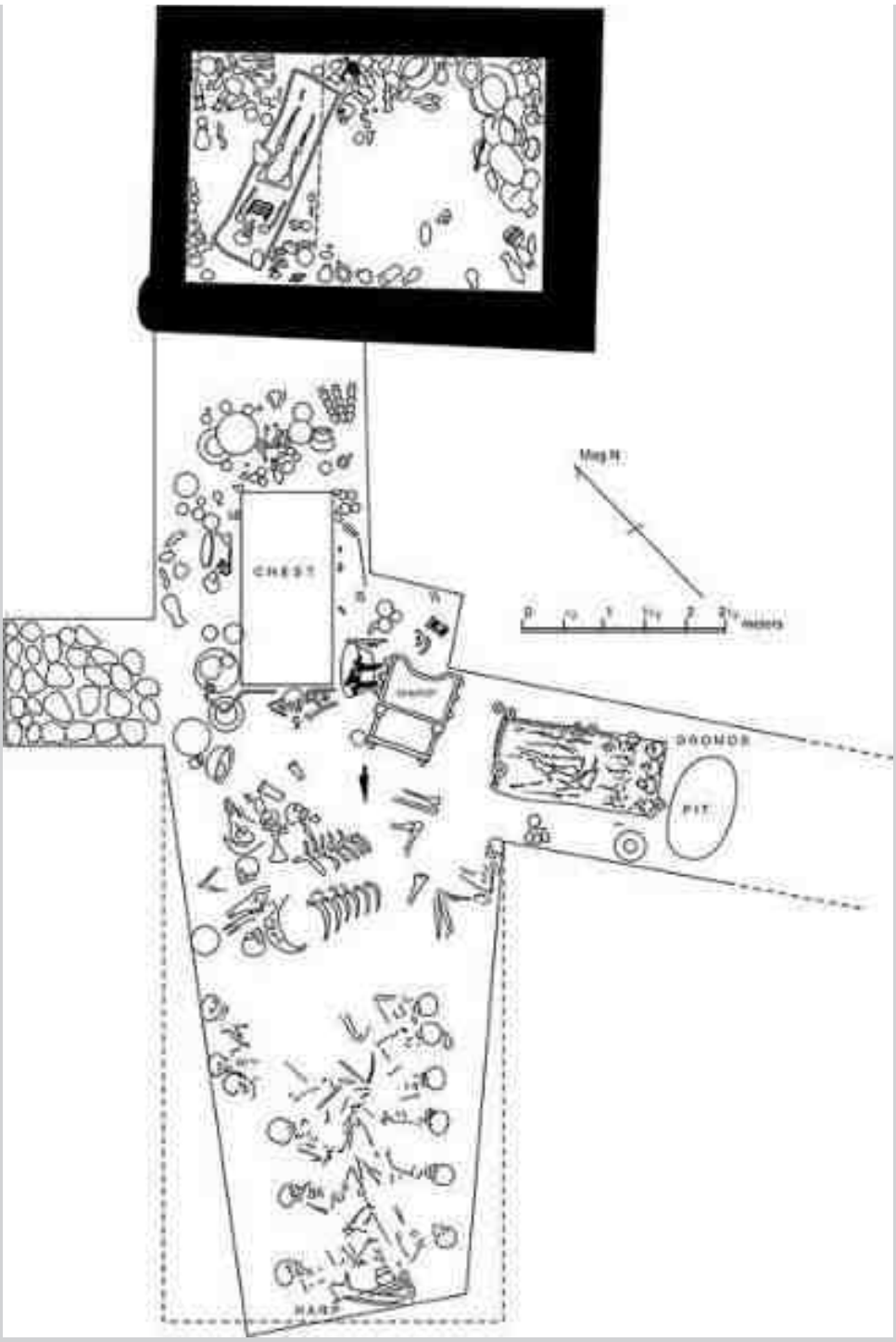
Box 3.5 Sites *The Grave of Pu-abi*

The most spectacular of the sixteen Royal Graves discovered by Sir Leonard Woolley at Ur was that of Pu-abi, a woman who must have been a member of the ruling dynasty or a high court official. (Note that Woolley called her Shub-ad, through a mistaken reading of the cuneiform characters.) Pu-abi's stone-built tomb chamber lay at the bottom of a deep shaft and was sealed by a stone vault. Within it on a wooden bier lay the body of Pu-abi herself, dressed in a cloak of lapis, gold, and carnelian beads. She also wore a wig, with an elaborate decoration of gold bands, and was accompanied by three female attendants. Adjacent to this chamber was the "death pit," which contained the bulkier grave goods of the deceased, notably a huge clothes chest and a sledge chariot, decorated in red, white, and blue mosaic and pulled by a pair of oxen (represented by their skeletons). There were many smaller treasures, including an inlaid gaming board and two richly ornamented lyres (Figure 3.9a). The entrance to the death pit took the form of a sloping ramp, guarded at the foot by the bodies of five men with copper daggers at their waists—the tomb sentries.

Immediately inside the entrance stood the chariot and clothes chest and the bodies of the four grooms responsible for attending the oxen (Figures 1.5 and 3.9b). The largest group of bodies lay in the annex to the left, where thirteen female attendants were carefully laid out in two rows. These people were buried to accompany their mistress to the otherworld. There were no marks of violence on the skeletons, and it has long been assumed that they died voluntarily, perhaps by strangulation or taking poison. Ritual cruelty and human sacrifice in a public arena is, however, a feature of several early (and more recent) states, where a vulnerable leadership may use it to affirm its divine status by terrorizing or killing its own citizens.

FIGURE 3.9A Gold and lapis bull-head lyre from Pu-abi's tomb. Joseph Baylor Roberts/National Geographic/Getty Images.

FIGURE 3.9B Plan of Pu-abi's tomb and death pit.



The objects recovered from the Royal Graves give us crucial insights into courtly life in third-millennium Mesopotamia. Inlaid panels depict scenes of feasting or four-wheeled battle wagons in action against the enemy. The

feasting scene shows a stringed lyre decorated with an ornamental bull's head being played before an audience of courtiers, and remains of several such lyres were found in the graves themselves (see Figure 3.9a). The wood of the lyres had long decayed, and we owe their recovery to a special technique used by Woolley in these graves. He soon realized that there were small voids in the fill of the chambers left by the decay of wooden objects. He carefully poured hot wax into the voids, which made it possible to reconstruct the form of the wooden objects and to restore their original decoration of inlay panels or precious metals.

One of the most striking features of the Royal Graves is the exotic provenance of many of the materials used in the creation of these priceless objects. The people buried in the Royal Graves could call on silver from Anatolia, gold from Egypt or Persia, and lapis lazuli from Afghanistan.

Who were the people who could command such wealth and could demand human sacrifice of their retainers? Woolley argued that they must be the rulers of Ur since some of the artifacts from the graves bore the title of king or queen, but others have questioned this theory. There are difficulties in relating the names of those buried in the tombs (where they are known) with rulers of Ur in the Sumerian king-list. It is hence possible that, rather than royalty, the Royal Graves may have held leading courtiers or priests and priestesses. Their wealth is apparent, but their identity remains shrouded in mystery. Whatever the case, the message of the tombs is clear. The burial ceremonies must have been impressive public displays, legitimizing the power and authority of the ruling elite.

New Developments in Northern Mesopotamia

The historical record for third-millennium Mesopotamia is richest in the south, but we should not ignore important developments in the north Mesopotamian plain, especially in the neighborhood of Nineveh and the region of the Khabur River, between the Tigris and Euphrates.

In the fourth millennium, the Khabur region had formed part of the broad Uruk culture area. One of the principal Khabur sites, Tell Brak, had already attained urban proportions by that period, covering 130 ha in area. Indeed, if we include the outlying mounds in the reckoning, Tell Brak in the mid-fourth millennium was larger in simple areal terms than at any later period, possibly even as large as fourth-millennium Uruk.

Archaeologists have shown that there are in fact two distinct phases of urbanization in this region of Mesopotamia: The first, in the mid-fourth millennium B.C., is represented by only a few sites like Tell Brak and Tell Hawa, and the second phase, in the mid-third millennium B.C. (c. 2600–2300 B.C.), for which one key site is Tell Leilan, excavated from 1979 to 2008 by Harvey Weiss and a team from Yale University. Leilan began the twenty-seventh century as a modest center some 15 hectares (6 acres) in area. Within 200 years it had mushroomed to a major urban site, ringed by defenses that enclosed an area of 90 hectares (222 acres). However, these were not stable, enduring settlements, but grew and shrank in a cyclical pattern, and most phases of urbanization were relatively brief.

City Neighborhoods in the Third Millennium

Mesopotamian cities of the Early Dynastic period and later had a number of standard elements, though they were far from rigid in their overall plan and configuration. We have already mentioned the defensive wall and the temple or temples. There were palaces, too. Temple and palace together formed the joint poles of economic and administrative activity. All-important cities and many lesser settlements stood on gradually accumulating tells, artificial mounds composed of mud-brick debris from previous building phases. Within the city limits there were often a main tell and a number of smaller tells, which correspond to suburbs inside the occupied area.

Archaeologists have found evidence that the cities were divided into neighborhoods, some of them associated with particular crafts or callings. One area at Nippur seems to have been a scribal quarter; another, at Abu Salabikh, may have been occupied by bakers. At Ur and Mari there were public spaces fronting onto the Euphrates River, and many cities had riverside harbors. Our knowledge of residential areas is limited, however, since relatively few excavations have concentrated on uncovering the dwellings of ordinary people.

A prime exception is Ur, where Woolley excavated an area of housing dating mainly from the early second millennium B.C., though some of the buildings were older. They may not be far different from urban housing in third-millennium Mesopotamia: mud-brick courtyard houses arranged along streets and lanes, with shops and chapels mixed in among the dwellings. Woolley thought they were of two stories, with stairs leading to the upper

floors. At Tepe Gawra in northern Iraq, the third-millennium houses had stone footings and small ground-floor rooms, which may have been the basis for mud-brick dwellings of several stories. Upper floors would have been an entirely logical feature where city space was restricted, especially if the city stood on top of a tell.

In addition to temples and houses, these early cities must have had markets where agricultural produce, manufactures, and raw materials could be bought and sold. Where these were located remains a mystery, though they may have been near the city gates, as in Southwest Asian cities in recent times. Two sites in northern Iraq—Tell Taya and Tell Brak—have third-millennium buildings that have been interpreted as caravanserais, where merchants could find lodging and could store their goods and pack animals. Texts from Ebla in northwest Syria show that Brak was noted at the time as a place to buy an expensive variety of mule.

Urban Centers and Rural Complexity

With the arrival of cities on the archaeological scene, the rural hinterland can too easily be seen as merely the support system of the cities, providing the food that kept the urban populations alive but offering little of interest on its own account. As American archaeologists Glenn Schwartz and Steve Falconer have observed, “In regions and time periods that provide ancient written records, this prejudice tends to be reinforced by the urban preoccupations of those texts and the world views of their authors, typically city-dwelling elites and the scribes in their employ” (1994, p. 12). We saw earlier how intensive surveys of the Mesopotamian plain by Robert McC. Adams and his colleagues identified a whole range of smaller settlements—hamlets, villages, and towns. Recent work has considered the question of rural sites in much greater detail, through the excavation of selected examples. What the excavators have found is that these are not the simple, undifferentiated agricultural villages they had expected. Rather, they were intimately linked with urban areas so that, at least in southern Mesopotamia, as the urban component of settlement increased, the rural sector decreased; and when cities declined, rural settlements increased once again. This work has raised the whole issue of rural complexity, as a counterpart to urban complexity, in early civilizations generally and in Mesopotamia in particular.

A particularly interesting site is Tell al-Raqa'i in the middle reaches of the Khabur River, a tributary of the Euphrates in northeast Syria. This was a small settlement of only a third of a hectare (as compared with the 50 to 100 hectares of nearby urban sites). Tell al-Raqa'i was founded around the beginning of the third millennium B.C. The lowest well-preserved levels, dated to around 2800 B.C. or a little earlier, reveal a settlement of rectangular mud-brick buildings clustered around a massive rounded building, an irregular ovoid enclosure with substantial mud-brick walls. Within the rounded building are a series of platforms and walls, but most notable of all are a number of deep silo-type rooms, entered from above. Schwartz interpreted this building as a specialized installation for grain storage and processing. Mud-brick platforms were used to dry the grain, ovens and cooking pots to parch it (to ensure its long-term preservation), and silos for storage. Tell al-Raqa'i is far from the only site of this type in the immediate vicinity. On the contrary, it is one of a series of contemporary sites on the banks of the middle Khabur that seem to have been centrally planned grain-collection facilities. Canadian excavators found remains of grain-storage facilities at Atij, 2 kilometers (1 mile) downstream from Tell al-Raqa'i. They also identified a possible riverside quay, underlining the crucial role of water transport at these sites.

Schwartz calculated that the storage facilities at Tell al-Raqa'i were capable of holding 75,000 kilograms (34,000 pounds) of grain, sufficient to feed around 500 people for a year. Yet the size of the site suggests a resident population of only thirty to sixty people. Schwartz concludes that the surplus was intended to feed some nearby urban center and that Tell al-Raqa'i and the other riverside sites on the middle Khabur were intentionally founded as units in a specialized system of state-organized grain supply. He concludes that these were not the villages of self-sufficient peasant farmers but parts of a centralized plan. The rounded building and similar defensive structures at the other sites suggest that the grain store itself had to be secured against theft or hostile attack, and the scale of these structures again suggests central control.

Thus, the cities were not the only new feature on the Mesopotamian scene in the fourth and early third millennia B.C.; they were accompanied, in some regions at least, by a radical reorganization of the rural settlement pattern. Sites such as Tell al-Raqa'i also highlight the importance of the transport of

bulk goods and staple foods on relatively large boats, by river and canal, as a major contributory factor behind the growth of cities.

THE AKKADIAN EMPIRE (2334–2190 B.C.)

A notable feature of many complex societies throughout the world is the creation of a propaganda machine that legitimizes the ruling elite and glorifies their achievements. The ultimate expression of such propaganda is the creation of public monuments and inscriptions, conveying an impression of power and control even where most of the populace cannot read. Rulers may also adopt grandiose titles and may even claim to be divine. In Mesopotamia, these tendencies found their first full development in the Akkadian period, when a new ideology of kingship and imperial power was created.

We have already seen how the alluvial plain of southern Mesopotamia was divided into two regions: Sumer, land of the Sumerians, in the south, and Akkad, land of the Akkadians, in the north. The distinction between the two peoples is best seen in terms of language. The Sumerian language has no living descendants, whereas Akkadian belongs to the broad family of Semitic languages represented today by Arabic and Hebrew.

We have also seen how Sumer and Akkad together consisted of a patchwork of some two dozen major city-states, each surrounded by its own territory and dependencies (which could include other towns). Although for much of the time one city or dynasty was considered dominant over the others and had control of the sacred center, Nippur, each city retained its own rulers and constituted a separate political unit.

Around 2334 B.C., all this suddenly changed. A new ruler, an Akkadian official at Kish, seized power in his home city and then marched against and overthrew Lugalzagesi, king of Uruk, the High King of the time. The new ruler took the name Sargon (Sharru-ken), a name that means “legitimate ruler” and ties in with historical evidence that shows just the opposite—that he was a usurper (see Figure 3.10). The name was pure propaganda. The victory over Lugalzagesi made Sargon overlord of Sumer and Akkad. There had been earlier Semitic rulers of Kish, but what distinguished Sargon from his predecessors were his ambition and a new ideology. He was not content to remain merely overlord of Mesopotamia. He wished to extend his power

north, east, and west. From this arose the Akkadian empire, the first supranational state.

Sargon established a new capital at a place called Akkad (sometimes written ’Agade’), not far from Baghdad. The site has not been identified, but it was no doubt a splendid city, its harbors frequented by ships from distant countries such as Meluhha (the Indus Valley), Magan (Oman), and Dilmun (Bahrain, an important trading entrepot even at this early date). It is from this city that the land of Akkad and the language Akkadian take their name. Sargon himself is known as Sargon of Akkad, and the empire he founded is called Akkadian. Such was its prestige and influence that the Akkadian language became the *lingua franca* throughout Southwest Asia for almost two thousand years.

Much of what we know about Sargon’s exploits comes from later tradition, in which history is embroidered by legend. He became a figure of mythical proportions, a great warrior king whose onslaught no enemy could withstand. This makes it difficult to assess the real nature of Sargon’s achievement. What is clear, however, is that during a long reign of perhaps half a century (2334–2279 B.C.) he used his dominance over the cities of southern Mesopotamia to launch a sustained series of campaigns against neighboring lands.

FIGURE 3.10 Head of an Akkadian ruler, the supposed Sargon of Akkad (third millennium B.C., bronze). Imperial ideology and charismatic leadership were two of the most striking features of the Akkadian empire and had a profound effect on later Mesopotamian dynasties. From this time on, ambitious Mesopotamian rulers sought to have themselves portrayed in public monuments as heroic and godlike individuals, deserving reverence from their subjects. The head had been placed for safekeeping in the central Bank in Baghdad and survived the looting of the Iraq Museum in April 2003. Iraq Museum, Baghdad, Iraq. Dea Picture Library/De Agostini/Getty Images.

The two main axes of expansion were east, against the peoples of Elam on the edge of Mesopotamia, and northwest, toward the upper Euphrates and the Mediterranean. What we know of these campaigns comes either from Sargon's own grandiose claims, contained in his inscriptions, or from later Assyrian records in which Sargon and his successors are regarded as heroes of the distant past. Neither source of evidence is entirely reliable, and they both contain a significant admixture of boastfulness and legend. Nonetheless, for what they are worth, they tell us that there was hard fighting in the east, and only after a struggle did Sargon force the local rulers there to become his

vassals. In the northwest, Sargon claimed that even rulers in western Syria were soon acknowledging him as overlord. If so, they were probably as much cowed into submission by Akkadian military expeditions as conquered in systematic campaigns.

What Sargon's campaigns achieved was access to many of the sources of raw materials on which southern Mesopotamia depended: silver, copper, and timber. His own inscriptions claim that he reached the cedar forest and the silver mountains, referring probably to the Amanus Mountains of Syria and the Taurus range of southern Turkey, respectively. But whether this or mere territorial aggrandizement was his aim is open to doubt. So is the reality of his imperial control: Neighboring kings may have offered their submission out of political or military convenience, but it was a different matter when Sargon was preoccupied elsewhere or stamping out the general revolt that troubled his later years.

Sargon's son and successor, Rimush (2278–2270 B.C.), also had to suppress rebellions, both at home in Sumer and Akkad and among his dependencies. He, in turn, was succeeded by another of Sargon's sons, Manishtushu (2269–2255 B.C.), who launched a famous campaign across the "Lower Sea" (the Persian Gulf) and may have raided parts of Oman. The greatest of Sargon's successors was not these, however, but his grandson Naram-Sin, who succeeded Manishtushu in 2254 B.C. and ruled over the Akkadian empire for thirty-seven years.

It was Naram-Sin who completed the task of turning a collection of territories into a true empire. He appointed Akkadian governors to rule the major cities and destroyed those that resisted him. The scale of his power is illustrated by a number of monumental buildings at Tell Brak, one of which is protected by brick walls 10 meters (33 feet) thick and may have been a citadel or fortified administrative center. To underline his power Naram-Sin took a step that the rulers of Egypt had taken long before: He proclaimed himself not the agent of a god, like his predecessors, but a god himself (though very much a lesser god) and took the grandiloquent title "king of the four quarters, king of the universe."

One of the key elements in the imperial program was the use of state propaganda. For Sargon and Naram-Sin it was part of a concerted imperial policy. The concept of charismatic kings and the notion of empire are both ascribed to the rulers of Akkad by later Mesopotamian tradition. People had only to look around them in the cities of southern Mesopotamia to see the

evidence of Akkadian greatness with their own eyes. The lands of Sumer and Akkad were virtually inundated with public monuments that extolled royal achievements and the power of these charismatic Akkadian kings. The reality was probably less impressive.

How far real Akkadian rule extended is difficult to say. There is incontestable evidence of Akkadian control at Tell Brak and elsewhere in the Khabur region of northern Mesopotamia, and probably also (though less certainly) at Nineveh and Assur. Further west, the layers of destruction found by Italian archaeologists at Ebla in Syria may have been the work of either Sargon's or Naram-Sin's armies, but there is no evidence that this region became a regular part of the Akkadian empire. Still further afield, the rock inscription of Naram-Sin at Pir Hussein, near Diyarbekir in southern Turkey, testifies to the long reach of the Akkadian armies but does not imply political control.

In the Khabur region, investigations by Harvey Weiss and his colleagues at Tell Leilan referred to above have suggested that Akkadian conquest was followed by significant economic changes. Agricultural production seems to have been intensified by the new rulers, and watercourse channels were deepened and straightened. Then, around 2200 B.C., Akkadian control disintegrated. Some archaeologists argue that the Khabur region experienced a massive population decline at this time and that the main regional centers became deserted. They put forward environmental change as one of the causes—a period of drier climate that persisted for several centuries. Corings taken from the seabed in the Red Sea and the Gulf of Oman combined with stalagmite evidence from caves in northwest Iran provide evidence for a 290-year period of drought in the region beginning around 2300 B.C., which may indeed have been one of the factors behind the fall of the Akkadian empire.

Naram-Sin's empire, great as it was, did not long survive his death. His son Shar-kali-sharri held on for twenty-five years against foreign attack and internal revolt, but when he died in 2193 B.C. the Akkadian realm collapsed; city-states and tributary peoples were once more independent, as they had been before the advent of Sargon. The Akkadian empire had lasted little more than a century, but it was a presage of things to come.

IMPERIAL UR (2112–2004 B.C.)

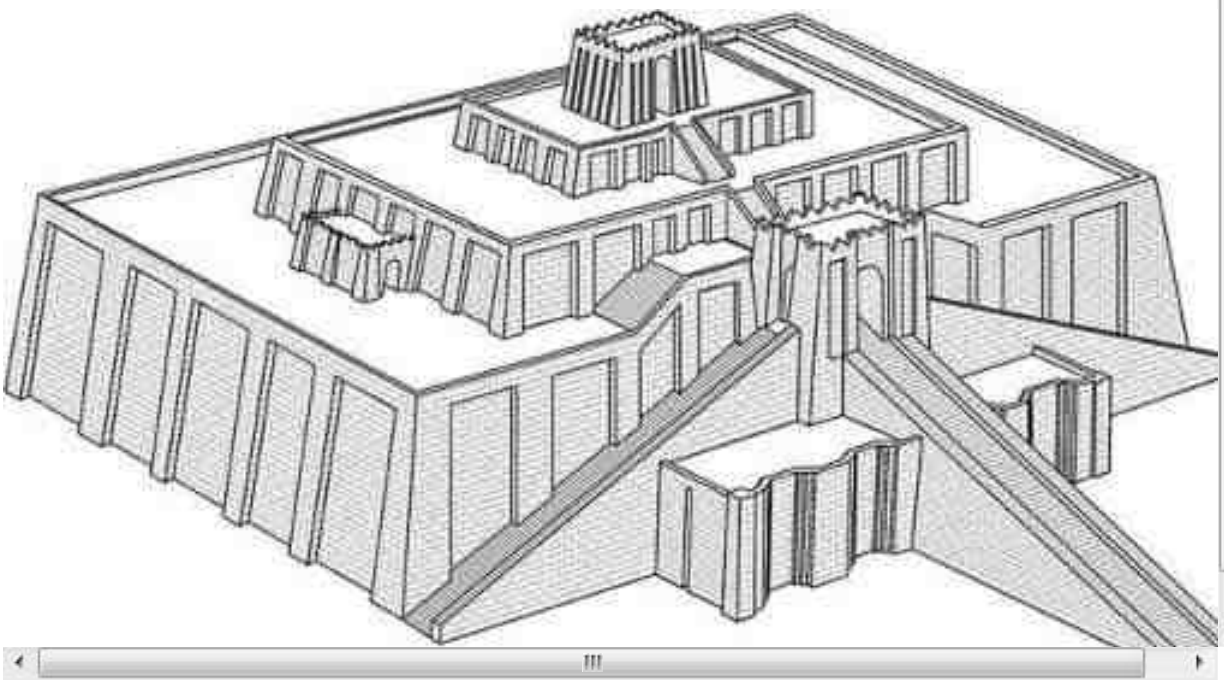
The habit of empire, once formed, died hard. What one ruler had achieved, others sought to emulate. Yet not all of them chose, or needed to choose, the route of military conquest to achieve their ends. A remarkable example of the diplomatic route to empire is provided by Ur-Nammu, who in 2112 B.C. founded the Third Dynasty of Ur.

Ur had always been one of the leading cities of southern Mesopotamia and a major port (perhaps the leading port) for the Indian Ocean trade, which brought copper from Oman and gold from India to the head of the Persian Gulf. Two previous dynasties of Ur had held sway over large tracts of Sumer and Akkad, and the wealth of the city is amply attested to by the discoveries from the famous Royal Graves. But the Third Dynasty took Ur to new heights of fame and influence.

Unlike Sargon and Naram-Sin, Ur-Nammu does not seem to have been a ruthless military man but used diplomacy as well as warfare to extend his influence over neighboring cities. There was also a religious element in this expansion, since Ur-Nammu embarked on an ambitious building program at his capital and elsewhere, rebuilding and enlarging the great ziggurat of Nanna, the moon god and principal deity of Ur (see Figure 3.11). This was a building without precedent in terms of scale and gave a great boost to the dynasty's prestige. Ur-Nammu built ziggurats at other cities, too. He is also credited with one of the oldest extant codes of law, preserved in fragmentary form on clay tablets found at Nippur, an important administrative center of the Ur dynasty.

FIGURE 3.11 Reconstruction of the Ur ziggurat. The most impressive remains at Ur today are those of the great ziggurat, the massive stepped pyramid dedicated to the moon god Nanna. It was built by Ur-Nammu (2112–2094 B.C.), founder of the powerful Third Dynasty of Ur. Ur-Nammu's ziggurat proved to be the first in a long tradition, stretching into the Neo-Babylonian period (605–539 B.C.). Its origin lay in a brick platform built to raise temples above the surrounding city houses. Such platforms are seen at Eridu as early as the Ubaid period, but as time went by they became grander and more impressive. The ziggurat was a logical culmination, consisting not only of a single

platform but also of a whole series of superimposed platforms, with a temple on the summit. The idea may have been to raise the temple closer to the sky, where the gods were thought to live. This is reflected in the biblical story of the tower of Babel, which is clearly a reference to the famous ziggurat of Babylon. It also placed the scene of the ceremonies far above the ordinary populace, who could only watch and wonder from a distance.



Ur-Nammu ruled almost the whole of Sumer and Akkad, but it was his son and successor, Shulgi (2094–2047 B.C.), who in a long reign of almost fifty years made Ur the capital of an extensive empire. He appointed governors to rule the cities of Sumer and Akkad on his behalf (though many came from ruling families of those cities) and introduced a system of monthly taxation (known as *bala,* meaning “rotation”) for this core territory. Shulgi also conquered the lowland region to the north and east of Sumer and Akkad, stretching up into the foothills of the Zagros Mountains, and appointed military commanders to govern these realms and pay tribute known as *gun mada. Gun mada* was annual and was paid in the form of livestock to special administrative centers such as Puzrish-Dagan near Nippur, which processed 350,000 sheep in a single year. Sheep were the source of wool used in textile

manufacture, which was one of the major economic activities of third-millennium southern Mesopotamia. Some archaeologists even refer to a "fiber revolution" following the specialized husbandry of the wool-bearing sheep in the early third millennium, and it is clear that textiles were one of the leading exports. One text of the period refers to a Mesopotamian textile production center in which over 4,000 adults and 1,800 children worked as weavers. Weavers were overwhelmingly women and had poor wages and low social status. Large-scale production centers owned by major landholders or by the state-alienated textile laborers from both agricultural production and their kin groups, leading to a major transformation in the political economy during the Ur III period.

One further feature of the Third Dynasty of Ur deserves mention: the emphasis placed on traditional Sumerian culture, even though the royal family itself used a mixture of Semitic and Sumerian names. Many scholars argue that the religious buildings of Ur-Nammu and Shulgi were one part of a conscious strategy of Sumerian cultural revival. Building temples and dispensing justice were, however, the duty of every legitimate Mesopotamian ruler (Figure 3.11).

WIDER HORIZONS (2500–2000 B.C.)

The historical record during the Early Dynastic period is focused on southern Mesopotamia, the land of Sumer and Akkad, and so it remains during the empires of Agade and Ur. This richness of historical evidence must not, however, be allowed to obscure important and contemporary developments in adjacent parts of Southwest Asia, notably in Syria and Anatolia to the west and in Susiana (the plain lying at the foot of the Iranian highlands) in the east.

Mari and Ebla

In the west, two of the most important sites are Mari and Ebla. These were cities founded in the third millennium B.C.—a little later than the earliest cities of Sumer and Akkad. Both lay on key trade routes leading from Mesopotamia to the west: Mari on the Euphrates itself, Ebla on one of the routes leading from the Euphrates valley to the Mediterranean coast. Both developed into important cities and, by the later centuries of the third millennium, were governed from large and luxurious palaces. Both lay within

the orbit of Mesopotamian traditions. At Mari, the temples and gods were Sumerian, and its rulers (depicted on statuary) wore the distinctive Sumerian fleece skirts, even though they had Semitic personal names. Furthermore, Mari depended, like the cities of southern Mesopotamia, on irrigation agriculture for its food. Over the course of centuries constant irrigation has sadly damaged the fertility of the floodplain; as irrigation water evaporates under the strong sun, it leaves a crust of salt. Mari today is flanked by extensive reaches of salt flat on the edge of the Euphrates River.

Ebla, by contrast, was located in higher terrain to the west and practiced rain-fed agriculture. Like Mari, it used the Sumerian script with a Semitic language (akin to Akkadian) for its official records. Sumerian gods featured in its religious affairs, but the Eblaite religion was not purely Mesopotamian since it also included divinities of Western origin. It was thus a link between Mesopotamia and the west, a city sitting at the junction of two separate worlds. It was not far enough away to escape the attentions of the Akkadian kings. When Italian archaeologists were excavating the royal palace (Palace G) in 1974, they came across a scene of devastation. Two adjacent rooms of the palace had held an official archive on clay tablets. These had been carefully stored on shelves fixed to the walls, but when found they were scattered across the floor and showed traces of fierce burning. The whole palace evidently perished in a massive conflagration. The excavators were quick to attribute this destruction to Naram-Sin, who boasted how he had put the city of Ebla “to sword and flame” sometime in the twenty-third century B.C. Whether or not this attribution is correct, the fire had baked the clay tablets in the palace and had thus accidentally helped to preserve them.

Ebla’s archive gives us a vital insight into the life of a Syrian city in the late third millennium. The clay tablets cover a variety of subjects, including trade, taxation, and military affairs. One document records receipts of over 7 tons of silver in a single year. Others reveal that the king of Ebla owned 80,000 sheep. Many of the texts concern textiles, some received as tribute from surrounding territories. A more violent background is revealed by references to “the year of the taking of Darasum” (a rival city) and “3,600 dead in the city of Darasum.” This is evidence of local warfare; texts from Mesopotamia itself speak of armies of over 10,000 men, and carvings such as the *Stele of the Vultures* from Lagash depict serried ranks of soldiers who are marching menacingly into battle with helmets, shields, and lowered spears (see Figure 3.8).

The Southern Levant

Southwest of Ebla lay the coastal strip of the southern Levant, backed by the hinterland of the central hills and the Jordan valley. Here the course of urbanization followed a very different pattern from that seen in Syria or Mesopotamia.

Cities first appeared in the southern Levant in the Early Bronze II period, beginning around 3100 B.C. They were found only in the coastal plain and were much smaller than those of Mesopotamia, attaining a maximum size of only 25 hectares (62 acres), as compared with the 400 hectares (988 acres) of Early Dynastic Uruk. After a few centuries, however, these heavily fortified sites began to be abandoned, until by the end of the Early Bronze III period (c. 2500 B.C.), almost all of them had been abandoned. This pattern suggests that, unlike Mesopotamia, the early cities of the southern Levant failed to integrate the smaller communities of the rural hinterland into a single settlement system. The cities flourished for several centuries, and those on the coast enjoyed trade links with Old Kingdom Egypt, but rural decline ultimately undermined their viability and led to their abandonment. It may not be appropriate, however, to view this as a "collapse" since the abandonment of the Early Bronze Age cities was gradual rather than sudden and may indeed mark a process of economic and political adaptation rather than a failed experiment in urbanization.

Cities did not appear again in the southern Levant until the Middle Bronze II period, around 2000 B.C. Thus, as in the Khabur region of northern Syria, there appear in this region to have been two distinct phases of urbanization. (The Middle Bronze Age cities of the Levant will be discussed in Chapter 7.)

Susa and Elam

On the eastern flank of Mesopotamia lived a series of peoples with whom the city-states of the plain were often at war. Some were confederations of tribesmen from the Zagros hills, such as the Lullubi defeated by Naram-Sin or the Gutians who attacked his successors. These were inhabitants of the central Zagros, but to the south a more centralized state emerged in the late fourth millennium, straddling the hill country and the fertile plain at its foot. This was the kingdom of Elam, centered on Anshan in the mountains but

expanding to absorb Susa on the plains (see carved vessel from Susa, Figure 3.12).

FIGURE 3.12 Carved vessel in soft stone from Susa, in lowland Elam. The vessel consists of two conjoined compartments, and the outer surfaces are carved with the representation of a reed-built house, complete with door and windows. Such houses have been traditional among the Marsh Arabs of southern Iraq and southwestern Iran down to recent times, and emphasize the dual character of the Elamite state, straddling the lowland plains and the Iranian plateau. Mid-third millennium B.C. Paris: Musée du Louvre. akg images/Erich Lessing.

The development of the Elamite kingdom owed much to contacts with the Mesopotamian heartland. Susa, as we have seen, was one of the enclaves of Uruk culture in the late fourth millennium B.C., a key element in the proposed Uruk world system. During that period of close contact, it shared many Uruk features, including beveled-rim ration bowls and hollow clay spheres, or *bullae*, which may lie at the origins of clay writing tablets. These features are also found far to the east of Uruk, at important centers such as Tepe Sialk and Tepe Yahya on the Iranian plateau. The spread of this material illustrates the operation of ancient trade routes that linked the Mesopotamian plain with sources of raw materials on the uplands to the east.

A significant political change seems to have occurred shortly before 3000 B.C., at the end of the Uruk period in Mesopotamia. This is the point when on the Iranian plateau and the plains around Susa we enter what is known as the Proto-Elamite period (3200–2800 B.C.). Its most distinctive feature is the use of clay tablets, inscribed in a pictographic script, as were those of Late Uruk Mesopotamia, but with a completely different language: Proto-Elamite. This language has no living descendants, though it may be related to the Dravidian languages spoken in southern India today.

The Proto-Elamite script is linked in its basic conception to Sumerian writing, but experts argue that it developed largely independently. If so, it is a curious parallel, though we must recall that both the Susa region and the Iranian plateau had fallen under heavy Mesopotamian cultural influence in the Late Uruk period. But the appearance of the script is not the only change at the beginning of the Proto-Elamite period. At the same time we see evidence of the emergence of a centralized state in southwestern Iran, named Proto-Elamite after the script. The core area of this state was probably Anshan, in the Fars province of modern Iran. The Anshan state expanded to absorb the city of Susa on the lowlands to the west, taking it out of the Sumerian orbit. Distant sites on the Iranian plateau such as Yahya and Sialk shared in these developments—they, too, for instance, have yielded small numbers of Proto-Elamite tablets—but they are interpreted as colonies, absorbed in a different way into the Proto-Elamite realm.

This Proto-Elamite state was a relatively short-lived phenomenon. It lost control of its “colonies” and collapsed around 2800 B.C. The Iranian plateau then fragmented politically into a number of smaller units, which were less centralized in nature and hence had no need for writing. They were, nonetheless, powerful in their own way and sat astride major axes of trade

and communication, controlling the flow of raw materials, such as metals and fine stone, that made their way to the lowland cities of Mesopotamia. Tepe Yahya became an important center for the production of elaborate chlorite bowls, while the people of Shahr-i Sokhta engaged in the transport of the much-prized lapis lazuli from Badakhshan in modern Afghanistan.

In the southwest, meanwhile, the city of Susa continued as the capital of a much-reduced Elamite kingdom. Historical records show that it came regularly into conflict with the cities of the Sumerian heartland. In the Akkadian period Susa was conquered by Sargon and after a brief period of independence fell under the control of Shulgi, of the Third Dynasty of Ur. These conquests pulled it back within the Mesopotamian orbit. The Elamite princes of the highland zone around and beyond Susa remained unsubdued, however, and when the empire of Ur weakened they took revenge on their once-powerful neighbors. In 2004 B.C., Kindattu, king of Elam, invaded Mesopotamia and captured the imperial capital of Ur. Susa once again became the capital of a powerful Elamite kingdom extending onto the Iranian plateau.

The fall of Ur may at the time have seemed just another vicissitude in the fluctuating fortunes of southern Mesopotamia. But the political geography was changing, as new states on the fringes of Mesopotamia became increasingly powerful and important. The continued development of Southwest Asia during the second millennium is the subject of Chapter 7.

Summary

This chapter has described the emergence of the key features of Mesopotamian civilization: cities, writing, and state-level political organization. We began with the growth of farming villages and the settlement of the dry southern Mesopotamian plain. The successful development of irrigation farming provided the economic basis for the cities that appeared in the fourth millennium B.C.. Bureaucracy and writing were essential tools of government in the new urban centers. Competition among city-states led eventually to the formation of the empires of Akkad and Ur. The cities themselves form the most striking archaeological sites of the period, large tells rising above the Mesopotamian plain. Yet we must not forget that it was successful exploitation of the landscape by peasant farmers

that made the whole phenomenon possible; nor must we ignore the importance of long-distance economic links, which supplied the cities with essential raw materials and, in turn, carried their influence far beyond the confines of Mesopotamia.

Note

1. The Early Dynastic (ED) period is itself subdivided. Early Dynastic I is dated approximately to 2900–2700 B.C., the period of the kings who reigned “before the Flood”; Early Dynastic II, 2700–2600 B.C.; and Early Dynastic III, 2600–2334 B.C.

CHAPTER 4

Egyptian Civilization

FIGURE 4.0 Khafre, builder of the second pyramid at Giza c. 2560 B.C. De Agostini/Getty Images.

The crowd has gathered since dawn, courtiers and high officials dressed in fine linen robes. Men and women stand on low earthen mounds, gazing at the brightly painted pavilion by the T-shaped lake in the desert sand. Sailing ships still crowd the Nile, bringing people from nearby Thebes to Amenhotep's Sed festival, his ceremony of renewal. The year is 1360 B.C., *the thirtieth year of King Nibmuareya Amenhotep's reign. Excitement runs high on this festive day. A trumpet sounds. The great double doors of the House of Rejoicing open. Amenhotep appears suddenly, dressed in ceremonial finery, surrounded by his family and chamberlains of the court. The crowd falls silent as the king stands still, in his role as sun god on earth. His vizier and the high priests lead forward a line of courtiers and high officials. The pharaoh hands out rewards for distinguished service, gifts of green linen and ornaments of gold. Each person honored accepts a gift of food from the king's table and eats in the king's presence. They walk to the lake and grasp the tow ropes of the Morning or Evening Barges with their precious cargoes of sun god statues. In a symbolic reenactment of the sun god's daily journey, they haul the barges to the very foot of the royal throne, celebrating the stability of the state and the longevity of the king.*

CHAPTER OUTLINE

Kmt: "The Black Land"
Origins (5000–3100 B.C.)
Predynastic Chiefdoms
Unification
The Archaic Period (3100–2680 B.C.): Kingship, Writing, and Bureaucracy
The Old Kingdom (2680–2134 b.c): Territorial and Divine Kingship
Saqqara: The King as Supreme Territorial Claimant
Pyramids: Mountains of Re
"The Herdsman of This Land"
The First Intermediate Period (2134–2040 B.C.)
The Middle Kingdom (2040–1640 B.C.): The Organized Oasis
The Second Intermediate Period (1640–1550 B.C.)
The New Kingdom (1550–1070 B.C.): Imperial Kings
"The Estate of Amun"

Akhenaten and Amarna
The Imperial Power
The Transformation of Egypt (after 1100 B.C.)

The Sed festival, described above, was one of the oldest ceremonies of Egyptian kingship, an institution that endured for more than twenty-five centuries. This chapter describes the origins and development of Egyptian civilization from its beginnings among small-scale farming communities more than 6,000 years ago (see Table 4.1).

KMT: "THE BLACK LAND"

"Egypt is the gift of the river," wrote the Greek geographer Hecataeus of Miletus, who visited the Nile around 500 B.C. He saw that Egyptian civilization depended on the annual flood that coursed down the greatest of Africa's rivers. The Nile cuts like a green arrow through the arid landscape of extreme northeast Africa (see Figure 4.1). The cut is more than 4,800 kilometers (3,000 miles) long, from high in the Ethiopian highlands and Lake Victoria in Uganda northward to the Mediterranean Sea. For most of the last 1,127 kilometers (700 miles), the Nile cuts a deep gorge through some of the driest landscape on earth, then fills it with thin annual deposits, layer upon layer, forming a deep, fertile river silt. The floodplain was bountiful, for the Nile waters overflowed their channel every year, bringing life-saving moisture to parched fields. Perhaps half a million people lived in *Kmt*, the "black land," when the Egyptian state was founded around 3100 B.C. in a valley where land was abundant, where there was plenty of wilderness, and where, in good flood years, lush marshland teemed with fish and fowl. Food was plentiful if the annual flood rose high enough to fertilize the land and if the waters were not so high and fast-moving as to sweep everything away in their path.

FIGURE 4.1 Map of sites and geographical features.

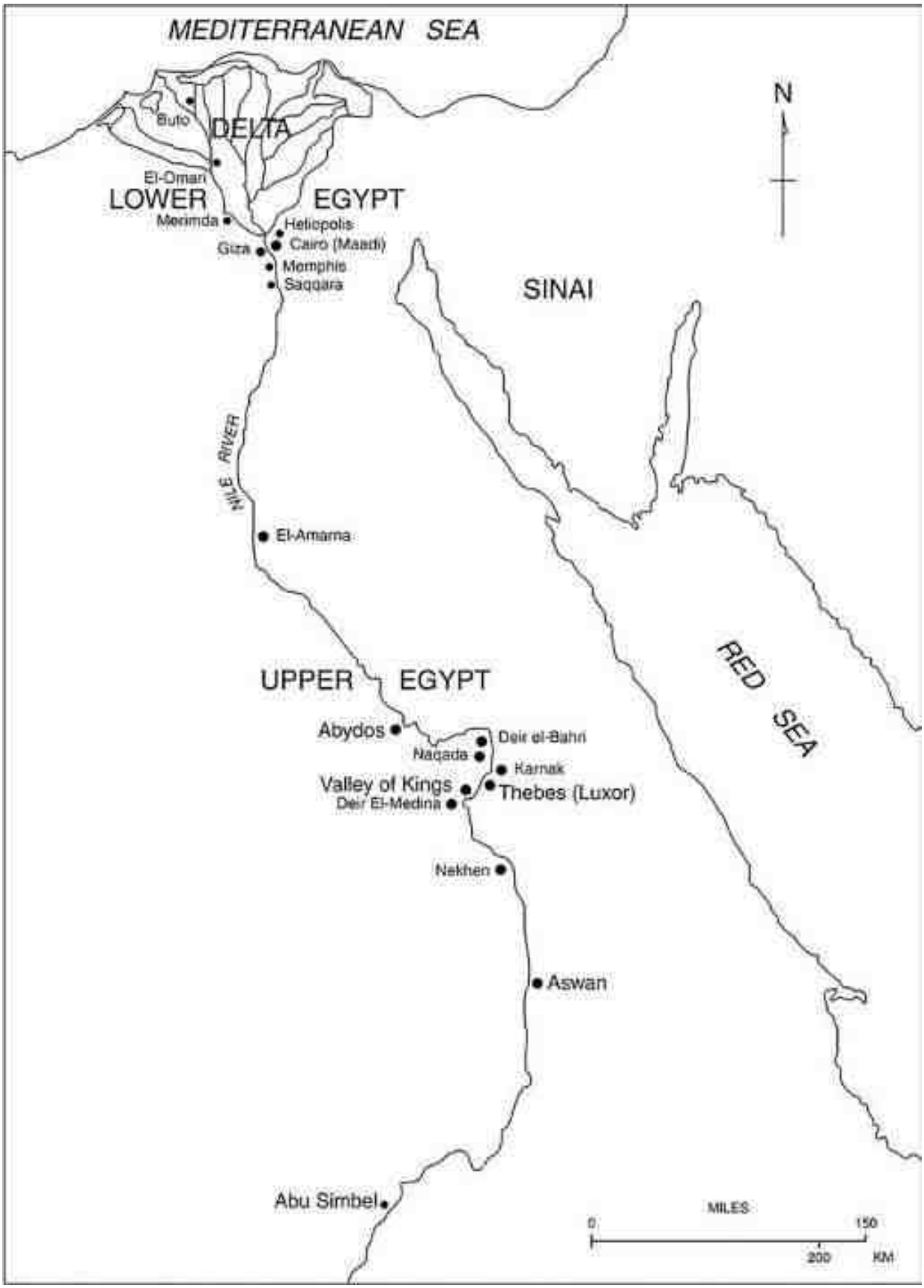
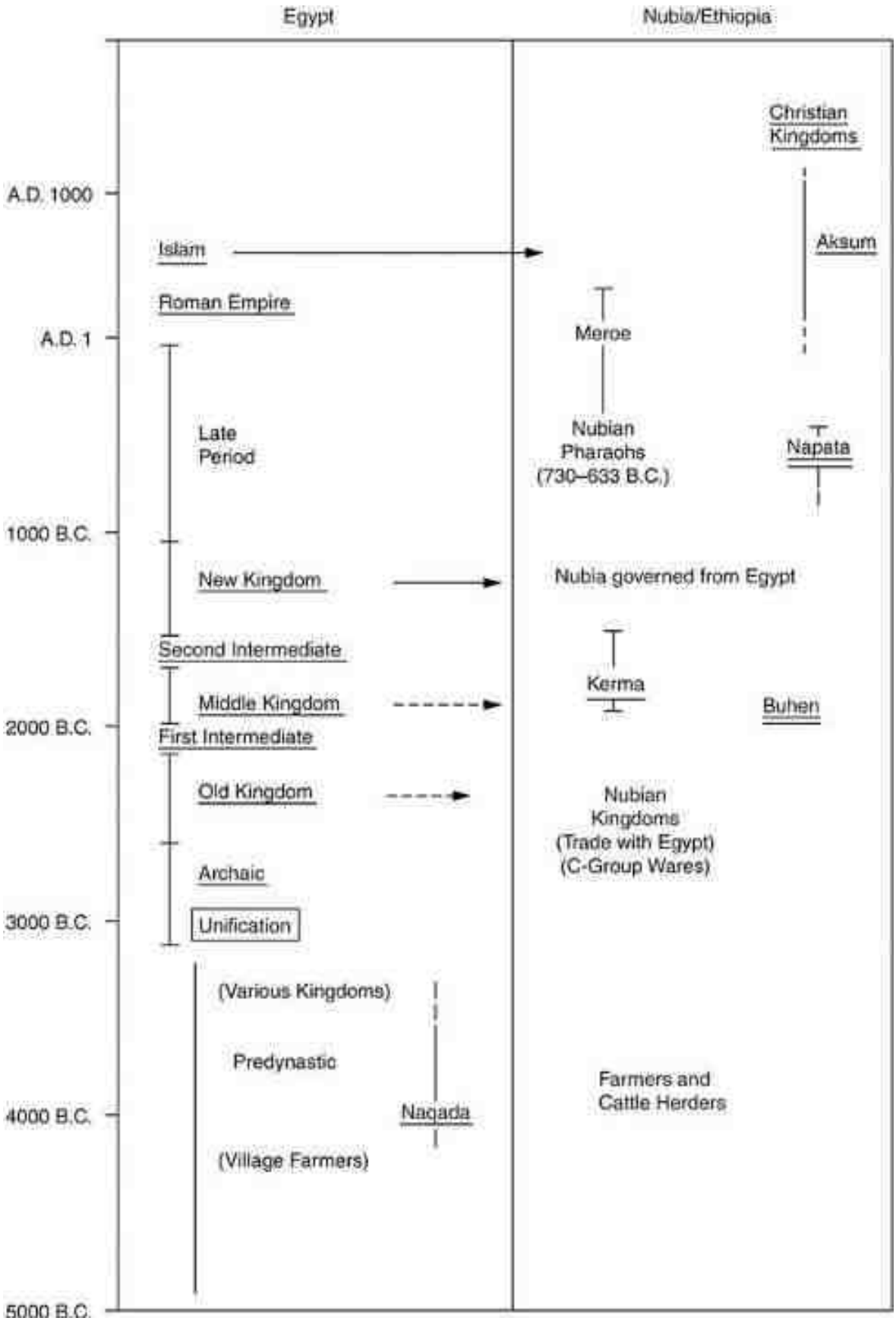

MEDITERRANEAN SEA
Buto
DELTA
El-Omari
LOWER EGYPT
Merimda
Heliopolis
Giza
Cairo (Maadi)
Memphis
Saqqara
SINAI
N
NILE RIVER
El-Amarna
RED SEA
UPPER EGYPT
Abydos
Deir el-Bahri
Naqada
Karnak
Valley of Kings
Thebes (Luxor)
Deir El-Medina
Nekhen
Aswan
Abu Simbel
MILES
0
150
200
KM

TABLE 4.1 Chronological table of Egyptian and Nubian civilizations


Egypt
Nubia/Ethiopia
A.D. 1000
A.D. 1
1000 B.C.
2000 B.C.
3000 B.C.
4000 B.C.
5000 B.C.
Christian Kingdoms
Aksum
Islam
Roman Empire
Meroe
Late Period
Nubian Pharaohs (730–633 B.C.)
Napata
New Kingdom
Nubia governed from Egypt
Second Intermediate
Kerma
Middle Kingdom
Buhen
First Intermediate
Old Kingdom
Nubian Kingdoms (Trade with Egypt) (C-Group Wares)
Archaic
Unification
(Various Kingdoms)
Predynastic
Farmers and Cattle Herders
Naqada
(Village Farmers)

The Nile's tributaries, the Atbara and the Blue Nile, both rise in the mountainous Ethiopian plateau. Each year, they carry the runoff from heavy summer rains in the tropics. The water surge flows downstream, swelling the Nile in summer. Before the days of modern hydroelectric schemes, the river would rise above its banks, turning the countryside into a vast, shallow lake, its towns and villages like islands on low mounds above the floodwaters. This was *akhet,* the season of inundation. As the current slowed, the river dropped its silt on the flooded lands, then receded as the farmers planted their crops on the muddy ground. Then came *peret,* the season of growing, when crops of wheat and barley would ripen slowly in the late summer and autumn sunlight without the need for watering. After the harvest in March or April, the early summer sun would harden and crack the ground, aerating the soil and preventing the accumulation of harmful salts in the earth. *Shemu,* the season of drought, ended with the onset of the new inundation.

Compared with turbulent rivers like the Tigris of Mesopotamia and the Indus of Pakistan, with their violent floods and wild fluctuations, the Nile was relatively predictable. There were occasional extreme highs and lows, but in most years, government officials could forecast the crest within a few meters and calculate tax levies from it. The Egyptians dreaded high flood years, when the river swept everything before it, and drought cycles, when the floodplain was a dust bowl. In such circumstances, Egypt was a vulnerable kingdom, a state held hostage by a great river. But its kings ruled, not always decisively, for 3,000 years. Much depended on the efficiency of their administration.

The Egyptians knew the Nile's floods and fluctuations intimately and lived their lives according to its rhythms. Symbolically, the great river was the source of life, personified by the god Hapi, the manifestation of the annual inundation. Hapi was depicted as a man with full breasts, which symbolized the rich fertility of the river. He flowed with the waters of Nun, the dark ocean in the realm of the gods, where the primordial earthen mound emerged, in turn, to give rise to Re, the sun. The divine Nile was part of the Egyptians' cosmic order.

The modern Egyptian landscape bears no resemblance to the riverine environment of 3000 B.C. We know little of the narrow floodplain's original appearance. We can only draw analogies from other large rivers like the

Mississippi and African rivers such as the Zambezi, which flood each year. The Nile must have had a well-defined channel, which meandered between natural banks. Shallow basins and swamps retained receding floodwater, capturing fertile silt. Small farming villages flourished on higher ground or on the river banks, in strategic locations near good soil. As the floodwaters receded, the farmers would plant their crops in the fresh silt, grazing their cattle in nearby meadows and scrublands. By the time the waters rose again, the harvest was over. The villagers' herds grazed on dry lands at the margins of the flood. The Egyptian farmer of 5,000 years ago had no need for elaborate irrigation technology, just the ability to exploit flood basins and a varied environment that teemed with edible plants, fish, and game animals.

The harsh desert pressed in on the floodplain from both sides, difficult to access and hard to traverse except in organized caravans. The Sahara and Sinai isolated Egypt both from tropical Africa and from Southwest Asia. Its distinctive civilization developed and flourished in relative isolation, but from the earliest times it obtained gold from the eastern desert, ivory, and semiprecious stones from far upstream, and timber from the Levant. For all this trading, Egypt was a conservative land set apart by virtue of its geography but united within by easy communication through river travel. Most people settled and traded along the river, for the Nile is navigable all the way from the Mediterranean to the First Cataract at Aswan. When sailing boats came into use before 3500 B.C., the prevailing north winds allowed people to sail upstream; they then used the current to return to home port. Throughout its long history, Egypt was a linear kingdom of considerable size, held together by powerful theological beliefs and centralized government and by the realities of communication and geography.

ORIGINS (5000–3100 B.C.)

How did the Egyptian state arise? Was it an indigenous civilization, or did it originate elsewhere—in Southwest Asia, or upstream in tropical Africa? The Egyptians themselves had a straightforward view of their history. The past was a model of order, king succeeding king in peaceful succession in an uninterrupted line back to the moment when time met the cosmos. Civilization was built on continuity, on meticulous record-keeping, and above all on divine and royal precedent. Egyptian scribes maintained lists of their kings with scrupulous care. With the help of the king-lists, Manetho, the High

Priest of Heliopolis, wrote a history of Egypt in the third century B.C. Only fragments of his book survive, among them king-lists from Menes, the first pharaoh, to the conquest of the Nile by Alexander the Great in 332 B.C. Manetho divided his list into thirty-one dynasties, a subdivision used to this day. Modern Egyptologists have further separated Manetho's dynasties into larger time spans that coincide with distinct episodes in Egyptian history (see Table 4.2). The actual chronologies of individual reigns and dynasties still generate controversy.

All Egyptian kings considered themselves rulers of Upper Egypt (the valley) and Lower Egypt (the Delta), the boundary between the two lying somewhere near modern Cairo. Their ceremonial title was symbolic of all-important unity, the reconciliation of the conflicting powers of Horus and Seth as rulers of Upper and Lower Egypt, the cultivated land and the desert. This reconciliation was the source of political order and stability for Egyptian society and, in symbolic terms, marks the beginning of Egyptian civilization. The Egyptians themselves cloaked the origins of their state in a complex ideology and symbolism of which Horus and Seth were a part. But they had no doubt that theirs was a society born of the Nile.

There have been attempts by some scholars and those in the public sphere to apply modern notions of race and racial divisions to ancient Egypt, but such presentist impositions on the past should be resisted. Egypt is critically situated at a juncture of civilizations and population movements. It has always had cultural links with Southwest Asia across the Sinai Peninsula, with Europe and the Mediterranean to the north, North Africa to the west, and Nubia (in what is now Sudan) and sub-Saharan Africa beyond that to the south. Indeed, Egypt's twenty-fifth Dynasty emerged from the Kushite Kingdom in Nubia, conquering and reuniting the Egypt crowns of Upper and Lower Egypt in the 7th and 8th centuries B.C. Although for much of Egyptian history artists marked distinctions of skin color, hair style and textures, and clothing between Nubians and those people traditionally considered "Egyptian," there has never been a truly biologically distinct, physically uniform population along the Nile, or hard dividing lines between such imagined groups.

TABLE 4.2 Subdivisions of Egyptian history with major cultural and historical developments

Years B.C.	*Period*	*Characteristics*

30 B.C.	Roman occupation	Egypt an imperial province of Rome
322–30 B.C.	Ptolemaic period	The Ptolemies bring Greek influence to Egypt, beginning with conquest to Egypt by Alexander the Great in 322 B.C.
1070–332 B.C.	Late period	Gradual decline in royal authority, culminating in Persian rule (525–404 and 343–332 B.C.)
1550–1070 B.C.	New Kingdom	Imperial period of Egyptian history; conquest of southern Levant; royal tombs in Valley of the Kings; Akhenaten, Tutankhamun, Seti I, Ramesses II
1640–1550 B.C.	Second Intermediate period	Hyksos rulers in the Delta
2040–1640 B.C.	Middle Kingdom	Restoration of royal control; conquest of Nubia
2134–2040 B.C.	First Intermediate period	Political disunity
2680–2134 B.C.	Old Kingdom	Powerful rulers build the pyramids and favor conspicuous funerary monuments; institutions, economic strategies, and artistic traditions of Egypt established
3100–2680 B.C.	Archaic period	Consolidation of the state
3100 B.C.	Unification of Egypt under Horus-Aha	

Analyses of DNA from Egyptian mummies cannot fully solve the interpretive challenges of confronting race in the archaeological record, racism in archaeological practice, and the emotionally and politically charged arguments surrounding them. However, they can provide new insights into the dynamics of gene flow among ancient populations. A recent study of mitochondrial and nuclear DNA from 90 mummified individuals found at Abusir el-Meleq (located about 80 kilometers/50 miles south of Giza) shows significant continuity in the populations of Egypt from ancient to modern periods. Despite such persistence, the ancient population sample exhibits a higher level of affinity with populations from Southwest Asia, Anatolia, and Europe than is evident in modern Egyptian populations. Modern Egyptians appear to have a greater genetic component from sub-Saharan Africa that the study's authors believe originated with increased gene flow between these

regions in the last 2000 years. Nonetheless, such a conclusion comes with significant caveats that the authors of that study clearly lay out. Like any such analysis, the sample population of mummies was limited in spatial and temporal scope and may not be representative of all ancient Egypt's peoples. These individuals were from the period between the New Kingdom and the Roman, after centuries of historical interaction between Egypt and its neighbors to the north and east. The earliest Egyptians, and those living elsewhere in Egypt contemporary with the mummies at Abusir el-Meleq, may have had quite distinct genetic profiles. Genetics is also not coterminous with culture, and archaeological data provide strong evidence that the origins of Egyptian civilization developed from largely indigenous roots, enriched by contacts with Southwest Asia and with tropical Africa upstream (see Chapter 12). How this complex process of indigenous development took hold can only be guessed at, though both archaeology and traditional myths provide telling insights.

Predynastic Chiefdoms

Archaeological evidence tells us that by 5000 B.C. simple farming based on cattle herding and cereal agriculture had replaced a combination of foraging and cultivation along the Nile as far south as what is now the Sudan, ushering in the predynastic period of Egyptian history. Two thousand years later, a patchwork of small kingdoms and villages had become a unified state with a distinctive, common ideology.

Most explanations for the origin of the state focus on population growth and competition for land and natural resources. In Egypt's case, state formation took place in an environment where population densities were still relatively low and there was plenty of vacant land, so neither of these factors played a significant role. The village farmers of 4000 B.C. had strong ties to their ancestral lands, expressed in deeply symbolic terms. At first dozens of small communities, each similar in size and status, competed and traded with their neighbors. Initially the communities were basically equal, but inevitably one of them at length gained an advantage, perhaps from trading expertise or unusually high crop yields. Equilibrium gave way to a seemingly inevitable momentum, in which some communities acquired more wealth and more power than their neighbors. They were able to establish a monopoly over

local trade, food surpluses, and so on, which overrode any threat posed by other political or economic players.

In predynastic times, there were probably hundreds of such local struggles in progress. As time went on, the number of players grew fewer, but the stakes were higher as increasingly large chiefdoms vied for economic power and political dominance. Power was won and then lost again as charismatic individuals died or trading opportunities changed. Egypt had more than enough fertile land and resources to enable such contests to play out over many generations. Surplus resources like grain or tool-making stone were the foundation of power. But the Egyptians also had a genius for weaving a distinctive ideology that imbued leadership and authority with elaborate symbols and rituals. These ideologies became a powerful factor in promoting unification.

The elaborate processes of state formation leave few signals in the archaeological record. In Egypt, such changes triggered the formation of larger settlements, small towns with all their potential for intensive interaction among individuals. Their leaders were buried with elaborate grave goods and with symbols that denoted an emerging ideology of power.

Major changes in human settlement can be seen at Naqada in Upper Egypt, 25 kilometers (15.5 miles) south of Thebes, where small hamlets were spaced about 1 kilometer (0.6 mile) apart in 4000 B.C. Demographic archaeologist Fekri Hassan has calculated that these small settlements grew enough grain at the edge of the floodplain to support 76 to 114 persons per square kilometer (0.386 square mile). By clearing bushes and scrub, removing dense grass, building dikes, and digging drainage canals to clear still-inundated acreage, the farmers soon opened up much larger tracts of agricultural land. By the time the farmers had put four or even eight times more ground under cultivation, they could support as many as 760 to 1,520 people per square kilometer, many of them non-farmers, such as officials, traders, and artisans who lived in permanent towns. A walled town with cemeteries stood in the heart of the Naqada area by 3600 B.C., with new forms of housing, rectangular mud-brick dwellings that were typical of later Egyptian villages. In some settlements, larger, more palatial residences housed a prosperous elite who enjoyed contacts with other communities up- and downstream. Naqada may have been the capital of a major chiefdom.

Another important chiefdom flourished downstream at Nekhen (Hierakonpolis), “the City of the Falcon” in Upper Egypt. In 3800 B.C.,

Nekhen was a small community inhabited by a few hundred people. During the next three centuries the population mushroomed to as many as 10,500 townsfolk, who lived in closely packed mud-brick houses. The ancient city was originally a small community of several hundred people living in sprawling villages along a stretch of well-wooded river bank. The villagers were famous for their distinctive, red plum-colored pots, which were much in demand as funerary offerings up- and downstream. One potter lived in a small house of stout wooden posts and mud-coated reeds, his kiln only about 5 meters (16 feet) from his flimsy dwelling. One day, the wind shifted suddenly as he fired some pots. Within moments, the potter's house was ablaze. Wisely, he rebuilt in stone.

Nekhen prospered, the population rose steadily, and the demand for clay pots mushroomed, not only for grave furniture, but also for standardized jars of several sizes used to brew wheat beer, a nutritious and mildly alcoholic beverage (Figure 4.2). A brewery just north of the growing city could produce as much as 300 gallons of beer a day, enough for more than 200 people. The smell of fermenting beer must have permeated much of the city. Pottery and beer were but two industries in a city that were rapidly becoming a dominant economic and spiritual power in Upper Egypt, thanks, also, to shrewd investment in agriculture, in simple canals and reservoirs to conserve the waters of the receding inundation.

FIGURE 4.2 Egypt before the state: pottery vessels of the fourth millennium B.C.; the representation of the reed boat, with banners and shelters amidships, is a frequent theme and illustrates the importance of the River Nile as an artery of trade and communication. Louvre, Paris, France/Bridgeman Images.

Much of this power came from the close associations between the city's rulers and the local falcon god, probably an early form of Horus. In the center of Nekhen rose Egypt's earliest known temple. An image of the god stood atop a pole in the center of an oval court in front of the shrine. At its foot, makeshift platforms displayed sacrificial offerings: cattle and crocodiles, newborn goats, and river fish, some weighing as much as 175 kilograms (385 pounds). Four massive wooden posts, at least 6 meters (20 feet) high, supported the facade of the three-room shrine and its walls of brightly colored mats. The posts can only have come from coniferous forests in far-

away Lebanon and been floated carefully up the river. The brilliantly colored cult center towered over the huddled buildings of the town, a potent symbol of the patron god of its charismatic rulers. Horus was to become the symbol of Egyptian kingship for over 3,000 years.

Curving rows of the sand-filled burial places of Nekhen's ruling families lie on the banks of a dry gully named Abu Suffian located outside the town. The sepulchers are humble by the standards of later royal burial places, but impressive for their day. Looters ravaged the cemetery in ancient times, leaving behind them an archaeological jigsaw puzzle—a jumble of finely made black-topped jars, flint arrowheads, and wooden furniture fragments. Egyptologists Barbara Adams and Michael Hoffman, and more recently Renee Friedmann, have undertaken a complex salvage operation, using brushes, trowels, and sophisticated recording equipment. They suggested the cemetery was a symbolic map of Upper and Lower Egypt, with the dry gully serving as the boundary between the two. They also found the earliest known royal sepulcher in Egypt.

A cemetery of working-class people has yielded over 150 graves, including women's bodies with their hands and arms padded, then wrapped in resin-soaked linen, the earliest evidence of any form of mummification yet found in Egypt. One matting-covered woman was buried with six loaves, mostly comprising chaff. Two others still had full heads of hair, one elaborately styled and dyed with henna. Their heads were wrapped and padded, again anticipating the mummification of the dead that was to become commonplace in later times.

"Tomb 100" is a mud-brick sepulcher with painted walls. A symbolic universe is a line of boats, which represent perpetual movement through time. One carries the anonymous ruler, standing under a simple awning protected by female guardian figures. The forces of evil surround the boats on every side, wild beasts and human enemies, but the leader prevails. Below, he holds apart two facing lions and smites his bound foes with a royal mace. The style is simple compared with later Egyptian art, but the message of an elemental struggle between the forces of order and chaos waged during the voyage through time is unmistakable. The same scenario appears in more sophisticated forms in much later New Kingdom royal tombs in the Valley of the Kings. Even before unification, Egyptian rulers were seen as upholders of order, justice, and piety, and vanquishers of chaos. Nekhen was an important cult center for Horus, the falcon-headed god.

Nekhen was the cradle of Egyptian kingship, but the names of its earliest kings are lost to history. We glimpse them only from occasional scenes on decorated artifacts. A magnificent mace head of polished green-and-white porphyry is one of the earliest symbols of leadership known from the Nile Valley. Its owner may have been one of the "Divine Souls of Nekhen," the primordial rulers of legendary Egypt. Another mace head shows a ruler in full ceremonial dress, with a ritual bull's tail, a symbol of kingly authority, hanging from the back of his belt. He wears the white crown of Upper Egypt and wields a mattock, as if he is about to breach the wall of an irrigation canal to release flood water. A scorpion dangles before his face, presumably a depiction of his name. Fan and standard bearers participate in the ceremony as an official prepares to receive the first sod in a basket. Below, the state barge waits to carry the ruler into the flooded basin once it is filled. He wears only the crown of Upper Egypt, so he probably ruled before the climactic event of unification.

Unification

By 3500 B.C., growing towns flourished not only in Upper Egypt but also beside the watercourses that dissected the Delta, each with their own gods and local rulers. Deep layers of silt mantle these towns, so we know little about their origins. Egyptian legends speak of the "Souls of Pe," legendary predynastic kings who ruled from a town of that name, now known as Buto. Buto, now under a sand dune, was first occupied in the fourth millennium B.C. and remained an important center for more than five centuries.

Potsherds are among the least glamorous of all archaeological finds, but at Buto they tell a remarkable story. The first inhabitants used highly distinctive, beautifully made pots adorned with white painted bands that bear a close resemblance to wares made in the Negev Desert, far to the east. Apparently, they soon left or gave up potting, for their distinctive wares vanish, to be replaced by much cruder local pots. These were no match for the elegant Upper Egyptian ceramics, which soon began to appear in the town by 3200 B.C. as contacts with the north accelerated and the pressures for unification intensified.

Upper and Lower Egypt were different lands with diverse cultures, the one influenced by the desert, the other by regular contacts with Asia. Even before unification, the Delta was host to a cosmopolitan world. Every year, small

caravans of donkeys would arrive in the Delta towns from the east carrying saddle bags laden with exotic seashells, semiprecious stones, or lumps of copper ore from the Palestinian mines in the Sinai Desert.

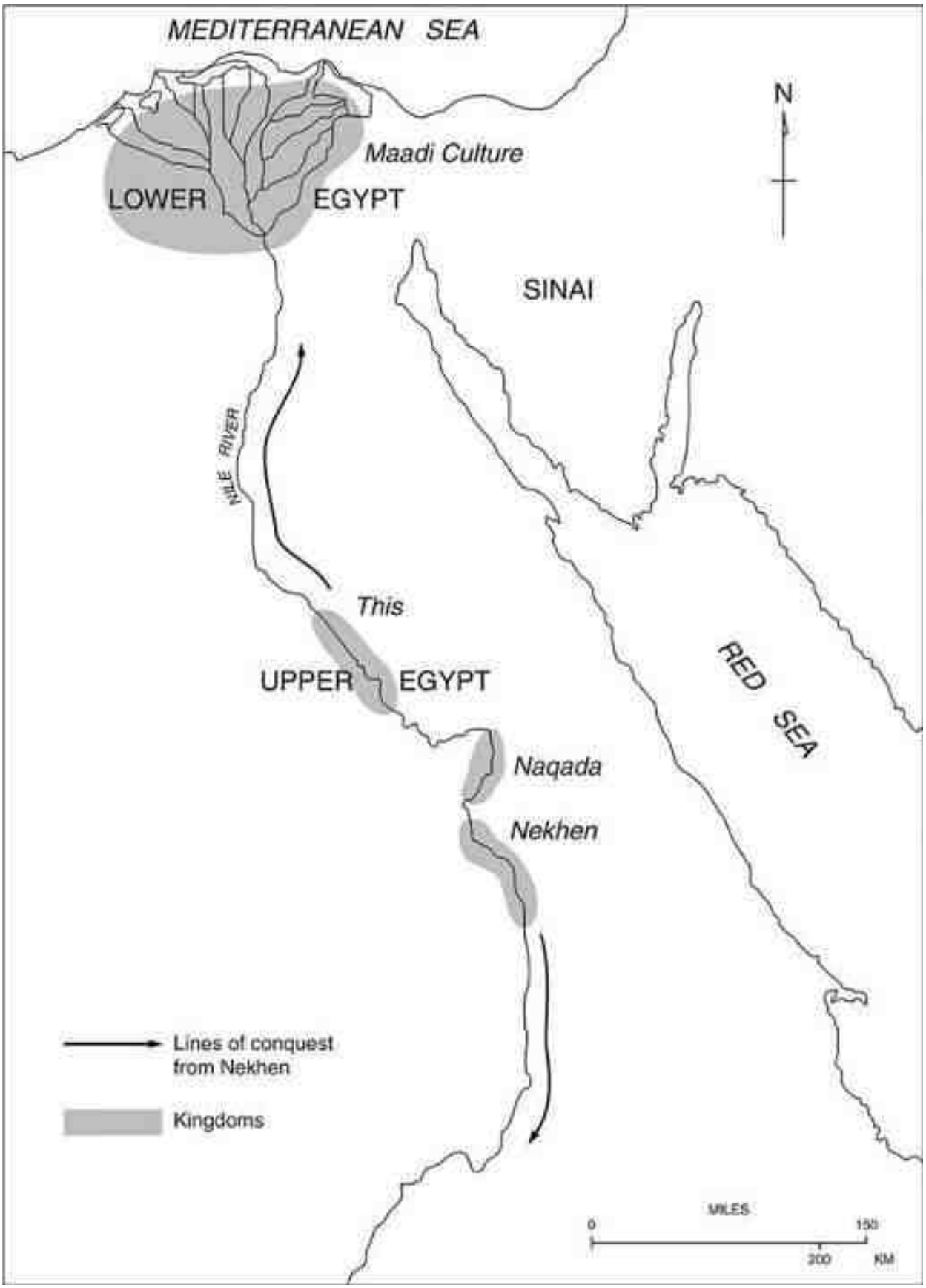
A poorly defined Maadi culture flourished over much of the Delta, comprising small towns and farming villages. The Maadi site itself, on the outskirts of Cairo, was an important center for the overland trade with the Levant and even Mesopotamia. Weather-beaten ships from the Levant tied up at Buto's wharves, their bilges lined with clay pots filled with olive oil and wine, long cedar logs stacked on deck. Their crews rolled the precious timber into the river, where waiting boats towed the logs laboriously upstream to towns as far away as Nekhen. But for all its cosmopolitan ways, Lower Egypt eventually succumbed to more powerful kingdoms upstream.

Egypt 3300 B.C. Chieftain vies with chieftain. Opportunists all, they fight and trade with one another. They control a supply of potting clay or a source of building stone or have access to desirable commodities like gold. Inevitably, one chieftain or community gains an unforeseen advantage for a while, from trading expertise, high crop yields, or victory in a small war, then fades just as rapidly into obscurity. Successful rulers use the foodstuffs and other resources that they control to widen their kinship links, creating new and more distant alliances. In the end, some communities acquire more wealth and power than others. The victor secures valuable monopolies over local trade, food surpluses, and other commodities, which make it easier to overcome threats posed by potential opponents. A scatter of ornamented palettes from Nekhen, Abydos, and elsewhere depict chieftains at war, vultures and crows attacking the dead. A king as a bull gores a bearded enemy. Another palette depicts the tribute exacted by conquerors—asses, cattle, rams, and incense trees. A palette from Minshat el-Ezzat in the Delta depicts paired animals with long curving necks framing a central circular basin, with a hunting scene of dogs pursuing gazelle to one side. These are probably the political propaganda of emerging statelets, each of them vying for power in the century or two before unification. At Tell el-Farkha, Naqada culture elites built elaborate *mastaba* tombs and depicted themselves or their ancestor gods in statuettes made of wood covered in gold foil, with lapis lazuli eyes.

The surviving kingdoms grow larger and larger. Nekhen overcomes Naqada. Then the chiefdom of This near Abydos downstream achieves dominance over Nekhen by conquest or dynastic marriage (see Figure 4.3).

The ruler of This becomes a king, powerful in war, an expert trader, and a living Horus on earth. He controls lucrative trade routes with Lower Egypt and develops his own contacts for wine and other luxuries along the eastern Mediterranean coast. He and his successors wage war on the Delta cities for control of trade routes. Eventually, one of them conquers the Two Lands and becomes the first pharaoh of a unified Egypt.

FIGURE 4.3 Approximate positions of known chiefdoms in predynastic Egypt, c. 3300 B.C.


MEDITERRANEAN SEA
N
Maadi Culture
LOWER EGYPT
SINAI
NILE RIVER
This
UPPER EGYPT
RED SEA
Naqada
Nekhen
Lines of conquest from Nekhen
Kingdoms
MILES
0
150
200
KM

Who was this first pharaoh? Was he Menes or some earlier, still undiscovered king? The answers are coming from Abydos, a holy place from the earliest days of Egyptian civilization. Five thousand years ago, this was the realm of the jackal-god Khentiamentiu, “Foremost amongst the Westerners,” close to a dramatic canyon that served as a symbolic entrance to the underworld. The first two dynasties of pharaohs chose to be buried here, almost midway between the First Cataract and the Delta and close to their immediate ancestors at This.

The royal cemetery became a magnet for nineteenth-century archaeologists, who dug with abandon through tombs that had already been pillaged in ancient times. Günter Dreyer of the German Archaeological Institute thought otherwise. He suspected that the very latest excavation methods might yield unexpected dividends when used around abandoned excavations. In 1988, he excavated a neglected area east of the royal cemetery, where he made a surprising discovery: a brick-lined royal tomb with twelve rooms designed as a house for the otherworld, complete with windows and doors, built for a king who reigned in about 3250 B.C.

The unknown monarch had gone to eternity with lavish possessions and ample food supplies. His burial chamber contained a shrine and an ivory scepter. Three storerooms held about 700 tightly stacked wine jars, amounting to about 1,200 gallons of wine. Using infrared spectrometry, Patrick McGovern of the University of Pennsylvania found high levels of tartaric acid associated with wine in the crusty residues inside the bottle-shaped jars, also traces of terebinth resin, a commonly used preservative. He knew the wine was imported, because vines were not cultivated in the Delta until centuries later. Another high-tech method, neutron activation analysis, identified the trace elements in the clay and sourced them to an area of early vine cultivation in the southern Levant. Interestingly, the wine was checked and re-stoppered, probably at Abydos itself: The clay plugs are of Nile clay. The wine stash was a real eye-opener as to the volume of trade between Egypt and Asia 5,000 years ago. One can understand why an ambitious ruler would seek to control such a lucrative commerce.

Another chamber yielded 150 small bone and ivory labels, once attached to bolts of linen. They bear numbers indicating amounts, even size, but many are readable hieroglyphic signs, which spell out the phonetic names of the places where the goods came from. Some of the places, like Buto, are towns

in the Delta, as if the labels were attached to tribute offerings from as far away as Lower Egypt. Some of these tags have been radiocarbon dated to 3200 B.C., making them the oldest examples of Egyptian writing. The unknown ruler's scribes were also using a fully developed writing system to inventory the yields, fully 150 years earlier than hitherto suspected. Some seal impressions from the Abydos tombs date to as early as 3400 B.C.

Who was the mysterious king who collected tribute from the Delta and traded with the Levant? Dreyer noticed that many of the clay vessels have the name *Scorpion* painted on them and believes this was the king's name. But there are other names as well, written as animal signs of dogs, lions, elephants, and even seashells, which may be those of earlier rulers in the dynasty. We still do not know.

The Narmer palette, found at Nekhen in 1898 (Figure 4.4), shows the king smiting Delta enemies, with two mythical beasts entwined harmoniously on the other side. No one knew whether the palette commemorated an actual historical event of unification until recently, when Günter Dreyer recovered a tiny ivory label close to Narmer's long-plundered Abydos tomb. The sliver bears a sketch of the king smiting an enemy from the Delta, depicted as a human head sprouting papyrus reeds. The labels once marked the dates of oil shipments, the years being identified by major events such as Narmer's victory in the Delta. This is obviously the same event as that shown on the famous Narmer palette, proving that this was an actual historical conflict.

FIGURE 4.4 The Narmer palette, a slab of slate found at Nekhen (Hierakonpolis) in Upper Egypt carved on both sides with scenes that commemorate King Narmer. (a) Narmer is wearing the white crown. He carries a pear-shaped mace head in his right hand and is about to smite a captive. A falcon head (the southern Horus) emerges from papyrus reeds, carrying a human head above the victim. A sandal bearer follows the king, who stands on two dead enemies. (b) Narmer is wearing the red crown (top), as he inspects rows of decapitated enemies, accompanied by two high officials. The central design of intertwined animals symbolizes harmony, balancing images of conquest in the upper and lower registers. At the bottom, a bull destroys a

city wall and tramples on its enemies. First Dynasty, c. 3100 B.C.; greywacke, height 63 cm. Werner Forman Archive/Getty Images.

Who, then, unified Egypt? Almost certainly a series of able, and still unknown, rulers from Upper Egypt. They, Scorpion, and Narmer belong to a shadowy Dynasty 0, made up of capable kings who may be the Spirits of Nekhen of Egyptian legend. Narmer's famous victory may have been the final moment of conquest, but it was his successor, King Horus Aha, who became the first ruler of a truly unified Egypt in about 3100 B.C.

By 3100 B.C., a semblance of political unity, commemorated by the Narmer palette, joined Upper and Lower Egypt in the symbolic linking of Horus and Seth, depicted in later Egyptian art. As these events unfolded, a new state came into being, founded not only on physical but also on symbolic geography, a harmony achieved by balanced opposites, of which Horus and Seth are only one manifestation. For thousands of years, the Egyptians were concerned with a world torn between potential chaos and order. They

believed that disorder, disequilibrium, could be contained by the rule of kings and by the benign force of the power of the sun. Thus, the Egyptians' intellectual view of the nature of the universe coincided with the structure of political power.

THE ARCHAIC PERIOD (3100–2680 B.C.): KINGSHIP, WRITING, AND BUREAUCRACY

The first two and a half centuries of Egyptian civilization were a long period of consolidation, of subordinating powerful local chiefdoms into a unified whole.

Aha and his successors came from Upper Egypt, where desert traditions of leaders as strong bulls and herdsmen ran deep. They were the remote descendants of leaders who had been tribal shamans or medicine men. They may indeed have had a direct link with the savannas of the Western Desert. The Sahara became increasingly arid owing to climate change during the fourth millennium B.C., with pronounced peaks of aridity in 3700–3600 b.c and in 3300–3100 B.C. This may well have forced pastoralist communities from the desert to migrate into the Nile Valley, triggering social change.

The first Egyptian kings had supernatural power over the Nile and its life-giving waters, which nourished their people. Their Nekhen ancestors had mediated between the forces of order and chaos, and the new kings followed in the same tradition. Like gods, they kept the forces of evil at bay—the Nubians and Asiatics, the animals and diseases that preyed on herds and ripening crops. Good rulers hunted lions and wild cattle and pursued hippopotamus, the evil god Seth personified, in the marshes. Human beings were the primary cause of unrest in the Egyptian world. The ideal was *ma'at*, "order" or "rightness," social justice and moral righteousness, which always existed in opposition to, and in conflict with, *Isfet*, the forces of disorder. The Egyptian world was never static, but one of constant struggle to maintain or enforce order against chaos, personified by the evil snake god Apophis in heaven and Egypt's enemies on earth.

The rising of the sun each day established order out of the dark chaos of night. For the king, *ma'at* meant keeping order and holding enemies at bay. For people generally, living according to *ma'at* was living in harmony with others and with the gods. The world was made for the benefit of humans by the Creator, who had instituted *ma'at* at the beginning. An ancient wisdom

text advises a later ruler: “Well tended is humankind—god’s cattle. He made sky and earth for their sake.” *Ma’at* governed the deeds of every Egyptian pharaoh in an ancient style of leadership that passed from Nekhen to This, from Scorpion to Narmer, and then to Aha and his dynastic successors. The kings were the creator incarnate, who returned to him at death.

The royal cemetery remained at Abydos, where the kings lay in subterranean, mud-brick tomb complexes in full regalia with their grave goods, close to a major wadi leading to the desert mountains. The sepulcher was unmarked, except, perhaps, for a low mound and a simple stela. A divine king was immortal, so many of his wives and retainers died with him, to lie in small pit graves around the grave of their lord. The practice of human sacrifice survived into the Second Dynasty (about 2700 B.C.) before it died out. A separate mud-brick ceremonial enclosure lay above ground, closer to the cultivated land, with a niched facade—called *shunet* in Arabic. The facades were paneled with ornamented recesses that replicated those of the royal palace, as if to create a mansion for eternity. The enclosure served as a form of mortuary temple for the deceased king and had structures and a mound symbolizing the primordial mound of creation inside. Fourteen wooden Nile boats, averaging 23 meters (75 feet) long, lie entombed in whitewashed mud-brick structures close to the desert cemetery. The boats may have been used during the funerary ceremonies, to ferry the royal corpse, but may also have been destined to carry the king through the solar cosmos in the afterlife.

The practice of mummification had roots deep in Egyptian history, dating back to predynastic times. The natural aridity of the Nile climate helped preserve the dead, but preservation of corpses for eternity achieved great elaboration in later times. The Egyptians believed that the tomb was a place of transfiguration, where the spirit of the deceased emerged from the body and soared into the heavens to ride among the stars with the goddess Nut. At the same time, they believed that the body should be preserved to allow the dead person’s spiritual essence, or *ka,* to visit it. Mummification for the wealthy began with ritual washing and purifying of the body. The priests then removed the brain and internal organs, except the heart, often storing them in separate containers. Next, they packed the corpse in solid natron (sodium salt) for forty days to dry it out. The desiccated body was stuffed and padded, coated with milk and aromatic resins, and then covered with molten resin. After cosmetic treatment, the corpse was bandaged in a complex ritual that

lasted two weeks, a process that could require as much as 368 square meters (440 square yards) of linen, with many amulets and semiprecious stones within the wrappings. An elaborate mask was sometimes placed on the completed mummy. The entire process took between seventy and ninety days, after which the body was placed in its coffin and the funerary rituals began. On the other hand, poor Egyptians were often buried in simple pits or stacked in dry caves without elaborate ceremony.

For 400 years, the earliest pharaohs grappled with the task of consolidating a mosaic of towns and villages scattered along 975 kilometers (600 miles) of river into a centralized state. They succeeded by turning their kingdom into a dynastic power, which flourished on personal loyalty and kin ties, and by assuming the mantle of the falcon god Horus. The pharaohs dwelt in magnificent palaces surrounded by the trappings of power, their every movement circumscribed by strict protocol. Their rare public appearances at important festivals were occasions of great important, symbolizing the rising of the sun at dawn, moments to celebrate a god, give thanks for a victory, or reward high officials. The pharaoh's official entourage formed the "followers of Horus," loyal officials who surrounded the king in the palace and on his royal progresses through the land. They transmitted his commands to the world outside the palace audience chamber. (The word "pharaoh" actually came into use much later, during the New Kingdom, derived from the word *per aa,* the "great house," after the royal palace.)

As many as half a million people lived in Egypt at unification, most of them in the narrow strip of land along the Nile Valley, though the Delta too had a substantial and growing population. Most villages and towns lay along the river, separated one from another by cropland and pasture, untouched marshes and thickets. Village headmen brought together the farmers to work on dikes and canals, to dredge natural flood basins. They, in turn, owed allegiance to chieftains, who presided over *nomes,* or tribal provinces, that coincided, in large part, with the natural configurations of the valley. Competition between these *nomes* had been the crucible for unification. Now, the *nomes* were provinces of a 600–mile-long state, but the ancient network of headmen and chiefly families still survived. The pharaohs created a system of government that built on these old foundations, placing members of their own family and trusted relatives in positions of high authority, rewarding loyal chieftains by making them governors of their *nomes.* A small elite

governed Egypt for the king, rewarded with titles and emblems of rank and with estates.

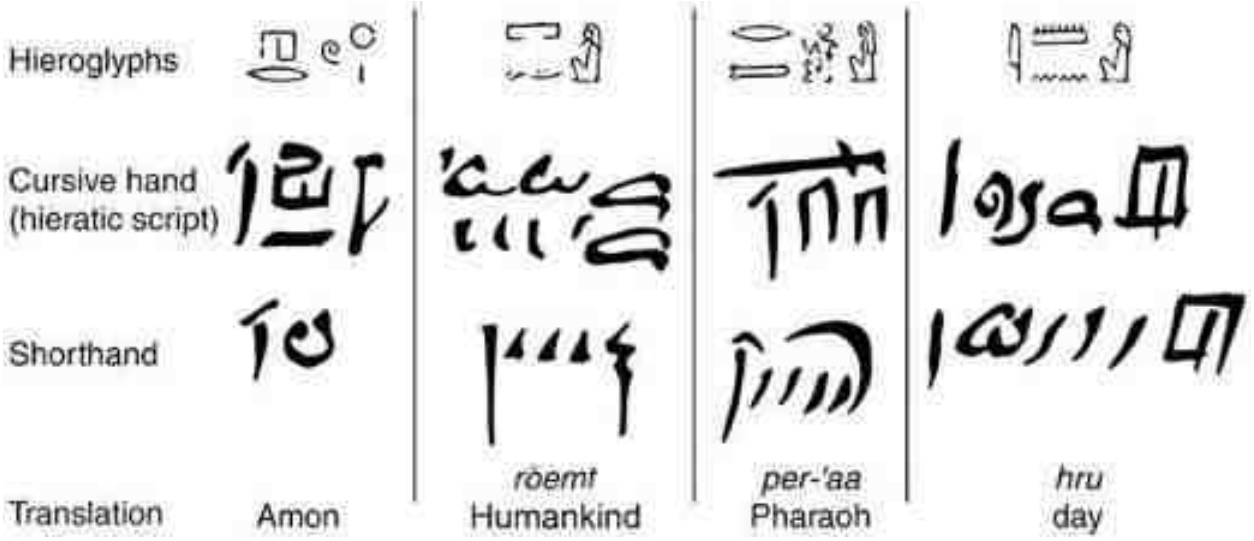
The “followers of Horus” ran the king’s household and helped him administer the kingdom. Two high officials were in charge of the Red and White Treasuries, the storehouses of Lower and Upper Egypt. They were ancient equivalents to secretaries of the treasury. Two controllers of the granaries collected and distributed commodities of all kinds—the corn, oil, wine, and other rations paid to everyone who worked for the state, whether official, scribe, or laborer. The “Overseer of the King’s Bounty” handed out perks to privileged courtiers and officials. From Memphis, the tentacles of administration reached out into towns and villages, through governors, mayors, and headmen, counting, inventorying, taxing, and making decisions. How high will the flood be? When is the right moment to heighten dikes or dredge canals? When shall we plant or harvest? How many rations are due the men working on the new temple? From the beginning, Egypt depended not only on a strong king and competent officials, but on large numbers of literate scribes.

Today, in a world of universal literacy, we tend to look down upon lower-level government bureaucrats. Egyptian society could not afford this luxury, where scribes formed a minority and held the key to power—information. Theirs was an honored profession, writing an invention of the scribe god Thoth, a deity with an ibis (bird) head. Thus, words had a magical power, the scribe a special role in the kingdom. Literacy passed from father to son, starting with hesitant glyphs brushed on potsherds and small stones, then on papyrus reed, the paper of Ancient Egypt. (The modern word *paper* derives from the Greek and Latin “papyrus,” a reference to Egyptian papyrus.) A schoolbook from later times adjures reluctant pupils: “Be a scribe, your body will be sleek, your hand will be soft. . . . Set your sight on being a scribe; a fine profession that suits you. You call for one; a thousand answer you.” Limitless horizons greeted the conscientious scribe. “You stride about inspecting. . . . You have a powerful office, given you by the king. Male and female slaves are about you. Those who are in the fields grasp your hand.” Ubiquitous scribes were the gear cogs of Ancient Egypt, the mechanism that made an increasingly complex bureaucracy run on oiled wheels. You see them everywhere with pens, palettes, and papyrus rolls: in tomb paintings measuring and supervising the harvest, sitting in rows counting baskets of

grain loaded into bins, inventorying storerooms. Even the humble seals that once closed granaries and temple stores bear their imprint.

Writing was power, the key to controlling the labor of hundreds, if not thousands, of people. Egyptian scribes developed their own script, which was easier to produce in ink on papyrus reed paper than on the clay tablets used in Mesopotamia. Hieroglyphs (Greek for “sacred signs”) are commonly thought to be a form of picture writing. In fact, they are a combination of pictographic (picture) and phonetic (representing vocal sounds) script and were set down on paper, carved on buildings, or painted on clay or wood (Figure 4.5). Hieroglyphs were reserved for monumental and funerary use; for everyday writing, Egyptian scribes employed “hieratic,” a cursive script related to hieroglyphic that was a form of handwriting. Only the consonants were written out in Egyptian scripts, although vowels were pronounced as *ths smpl xmpl shws*. The intricate scripts typified the symbolic nature of Egyptian thought.

FIGURE 4.5 Egyptian writing is referred to as hieroglyphic from the hieroglyphs, the familiar symbols that appear in formal inscriptions and on tomb walls. In fact, Egyptian scribes developed cursive hands used in everyday life. These examples show formal hieroglyphic script (top line) and below it both the cursive script and the scribe’s shorthand, which was used for rapid writing.



As the state matured, so did the arts of writing and mathematics. The cumbersome glyphs of Aha's time soon developed into a more informal cursive script, written in pen on papyrus. Now the scribes could send rapid instructions afar and receive replies, record the heights of Nile floods and send them to Memphis, count the numbers of families and oxen in remote villages. But they needed to make calculations as well—the dimensions of temple floor plans, the size of corn fields, the number of loaves issued to a ship's crew, the quantities of bricks needed for a royal burial chamber. Scribes had to calculate dimensions and volumes, compute fractions, survey land, all with a simple linear measure based on the dimensions of the human body (the cubit—forearm from elbow to fingertip, the palm of the hand, the finger) and standard units of cubic measurement.

For four centuries, the pharaohs wrestled with competing religious agendas. Each *nome,* each community, had its own deities, despite the divine figure of the king towering over the state. Kings controlled this diversity by dedicating cult centers to the gods, and thus, they acted as the link between all the gods and all of the places. Each ruler juggled loyalties, favored strategic *nomes,* made diplomatic marriages to cement relationships with potential rivals. They also forged a new religious ideology that was to endure for 3,000 years. A standardized canon of Egyptian art came into use, replacing the diverse regional traditions of earlier times.

From the beginning, the First and Second Dynasty pharaohs identified themselves with Horus, "the One on High," a divine force. Their scribes wrote the ruler's name inside a panel or *serekh* depicting the paneled facade of his palace with the falcon-headed god perched above, denoting the king as Horus: present, alive, and in residence. Aha also assumed the title *Nebti*, "He of the two Ladies," the cobra of Lower Egypt, the vulture of Upper. By 2500 B.C., the king's name appeared within an oval cartouche signifying the circuit of the sun around the universe. The sign, derived from the circular *shen* glyph, also symbolized eternity, thus protecting the king's name, and the king, forever. A second cartouche named the pharaoh "Son of Re," identifying his even closer relationship with the sun god.

Supreme rulers thrive on propaganda. So the early pharaohs proclaimed that they maintained order in the presence of a supreme divine force, the power of the sun. The pharaoh's clothing and regalia became a mantle of divinity—of potency in creation. He was herdsman and protector of the people. Each king wore the regalia of a pastoral chief, a *shemset* apron at his

waist, his back guarded by a bull's tail hanging from a belt. He carried the crook and incense gum collecting flail of a shepherd, a goat-hair beard on his chin. By King Den's time (about 2900 B.C.) the ruler wore a double crown that combined the red headdress of Lower Egypt and the white of Upper Egypt.

The propaganda of divine kingship rang out in chants and recitations, in elaborate public ceremonies, as hieroglyphic inscriptions on temple and palace walls, in art and architecture. In art, inscription, and regalia, the king became a warrior and a builder. He passed the goodness of humankind to heaven and received the blessing of the creator and the other gods for earth. The king is seen making offerings to gods, proffering the produce of the land, or standing face to face with the falcon-headed Horus. The god clasps the king's forearm with his left hand, while his right arm encircles the royal shoulders as a sign of protection.

To tour an Egyptian temple is to be bombarded with a constant recitation of divine kingship: the king in the presence of the god Osiris, the king making offerings to the sun god Amun-Re, the king offering a figure of the goddess Ma'at, "rightness," to Amun, Re, and Ptah. The litany soon becomes monotonous (or inspiring!) but is overwhelming in its repetition. Always the pharaoh triumphs. He is present and seen to be doing his job and so everyone can be confident that the cosmos will survive.

For all the propaganda, rivalries between north and south bubbled below the surface constantly. The age-old conflict between Horus and Seth broke out again amidst savage fighting between north and south. The last pharaoh of the Second Dynasty, Khasekhem, suppressed rebellious armies from Lower Egypt after savage fighting, commemorated by piled corpses around the bases of two seated statues of the pharaoh found at Nekhen. Khasekhem changed his name to Khasekhemwy, "Appearance of Two Powers." He married a northern princess named Nemathap as a gesture toward better relations. A surviving clay jar seal records her title as "The King-Bearing Mother." She was the ancestral figure of the Third Dynasty, when the Egyptian state came of age.

THE OLD KINGDOM (2680–2134 B.C.): TERRITORIAL AND DIVINE KINGSHIP

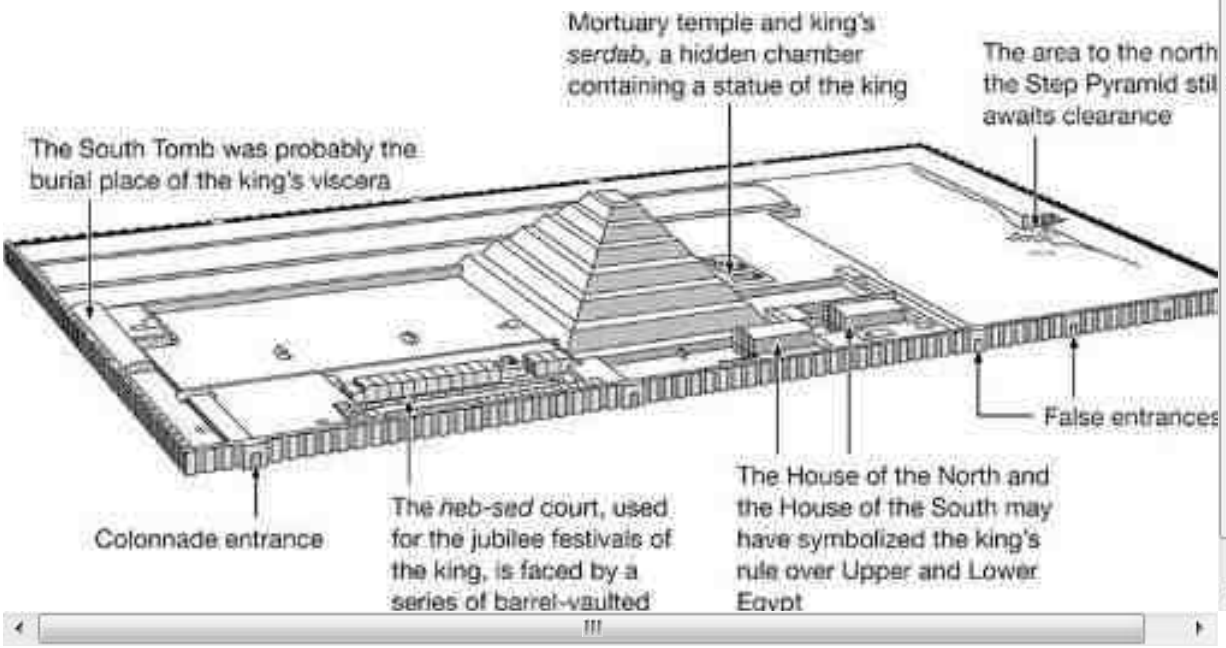
Around 2680 B.C., the Third Dynasty ushered in the four-and-one-half centuries of the Old Kingdom, the first great flowering of Egyptian civilization. By this time, Egyptian society was shaped in the image of a state where the well-being of the common people depended on their ruler, who was supported by their labors. According to the Greek traveler and writer Herodotus, who visited Egypt in the fifth century B.C., long after the heyday of the Egyptian state, some Old Kingdom pharaohs, notably Khufu and Khafre, went too far. They became harsh tyrants who ignored the wishes of the gods and the people alike. Their enormous pyramid tombs stretched the state to the limit. Menkaure, who built a third and much smaller pyramid nearby, may have made a timely adjustment, for Herodotus records him as a generous ruler. Many scholars dismiss Herodotus's account as mere hearsay, but it might reflect historical reality.

Saqqara: The King as Supreme Territorial Claimant

The Old Kingdom pharaohs, like their predecessors, used dramatic settings for their public appearances. A large open space; an elevated place shaded with a canopy, where the king would be glimpsed; a small palace for donning formal attire and resting—these were the ingredients for a setting for the pageantry that accompanied the eternity of death and for the ever-important Sed festival, the jubilee ceremony after thirty years of royal rule. The Third Dynasty pharaoh Djoser considered himself the supreme territorial claimant, a role he celebrated in a large enclosure dominated by a unique structure: the Step Pyramid at Saqqara, opposite the royal capital at Memphis.

Djoser's vizier, Imhotep (c. 2680 B.C.), high priest of the sun god, devised the architecture of the Step Pyramid (see Figure 4.6). By this time, all manner of local beliefs had fused into the familiar pantheon of Egyptian gods, headed by the sun god Re or Re-Harakhty. Each day, Re-Harakhty sailed in his barque over the waters of heaven, bringing light and life to a world that otherwise would be moribund as it was before creation. At sunset, Re changed barques and became inert in the form of a ram-headed manifestation of the Creator, passing over the waters under earth. There he battled with the demonic forces of *Isfet* led by the snake god Apophis. Triumphant, the sun god emerged on the sun barque at the beginning of a new, young day as a new cycle of creation began.

FIGURE 4.6 Step Pyramid complex of King Djoser at Saqqara. The stepped pyramid stood at the heart of an enclosure that served as an elaborate setting for public ceremonies that symbolized the king's role as supreme ruler. The enclosure wall was built to imitate the facade of a royal palace. From Chronicle of the Pharaohs by Peter A. Clayton, Thames & Hudson Inc., New York, 1994.


Mortuary temple and king's serdab, a hidden chamber containing a statue of the king
The area to the north the Step Pyramid still awaits clearance
The South Tomb was probably the burial place of the king's viscera
False entrances
The House of the North and the House of the South may have symbolized the king's rule over Upper and Lower Egypt
The heb-sed court, used for the jubilee festivals of the king, is faced by a series of barrel-vaulted
Colonnade entrance

Under the new doctrines, Djoser was more than a personification of Horus: He ruled on earth as the son of Re, or even as the sun god himself. He and Imhotep boldly changed the superstructure of his tomb to reflect their innovative theology. The primordial mound now became a stepped pyramid, a stairway whereby the deceased pharaoh could ascend to the sky to join Re in his sun barque at the moment when the rising sun illuminated the summit. At the same time, the king ordered his pyramid built, not alongside his ancestors at Abydos, but far downstream at Saqqara, in the desert west of Memphis.

The great architect drew his inspiration from earlier royal tombs, rectangular structures like those at Abydos, which were eternal mansions for dead monarchs. Such tumuli had associations with the primordial earthen mound that formed an important part of the Egyptian legend of the creation. Using small armies of workers from every village in the realm, Imhotep

erected a stepped pyramid instead of a mound. At one stroke, the state broke down the isolation of hundreds of village communities, by mingling them with their fellow countrymen in what must have been seen as a common act of piety, a gesture toward a sacred cosmos—somewhat similar to the building of a medieval cathedral. The social consequences were enormous. The Saqqara pyramid rose in six diminishing steps to over 60 meters (372 feet) above the desert, the faces oriented to the cardinal points. The effect is like a giant quadruple staircase rising toward heaven. A wall with a palacelike facade over 1.6 kilometers (1 mile) in perimeter surrounded the entire mortuary complex. The court in front of the pyramid was a setting for royal appearances, complete with ceremonial territorial markers, a throne platform, and a token palace. The entire complex was an arena for the eternal pageantry of kingship on earth.

Pyramids: Mountains of Re

Djoser and his predecessors were terrestrial monarchs, supreme rulers who epitomized the triumph of order over chaos. But a new image of kingship emerged sometime after his death in 2649 B.C. The ruler was now absorbed into the mystic symbol of the sun. An increasingly powerful priesthood fused sun worship with the cult of the pharaoh. The sun god became a heavenly monarch, the pharaoh no longer a territorial conqueror but the deity's representative on earth. After death, the king assumed the identity of Osiris, the Lord of the Dead. According to Egyptian beliefs, the stars were divine beings and the ruler was destined to take his place among them. "The king goes to his double . . . a ladder is set up for him that he may ascend on it," says a spell in a royal pyramid text. Thus, it was that the Old Kingdom pharaohs lavished enormous resources on building their sepulchers, at first earthen mounds, then the stepped pyramid of King Djoser and finally the true pyramids of his successors.

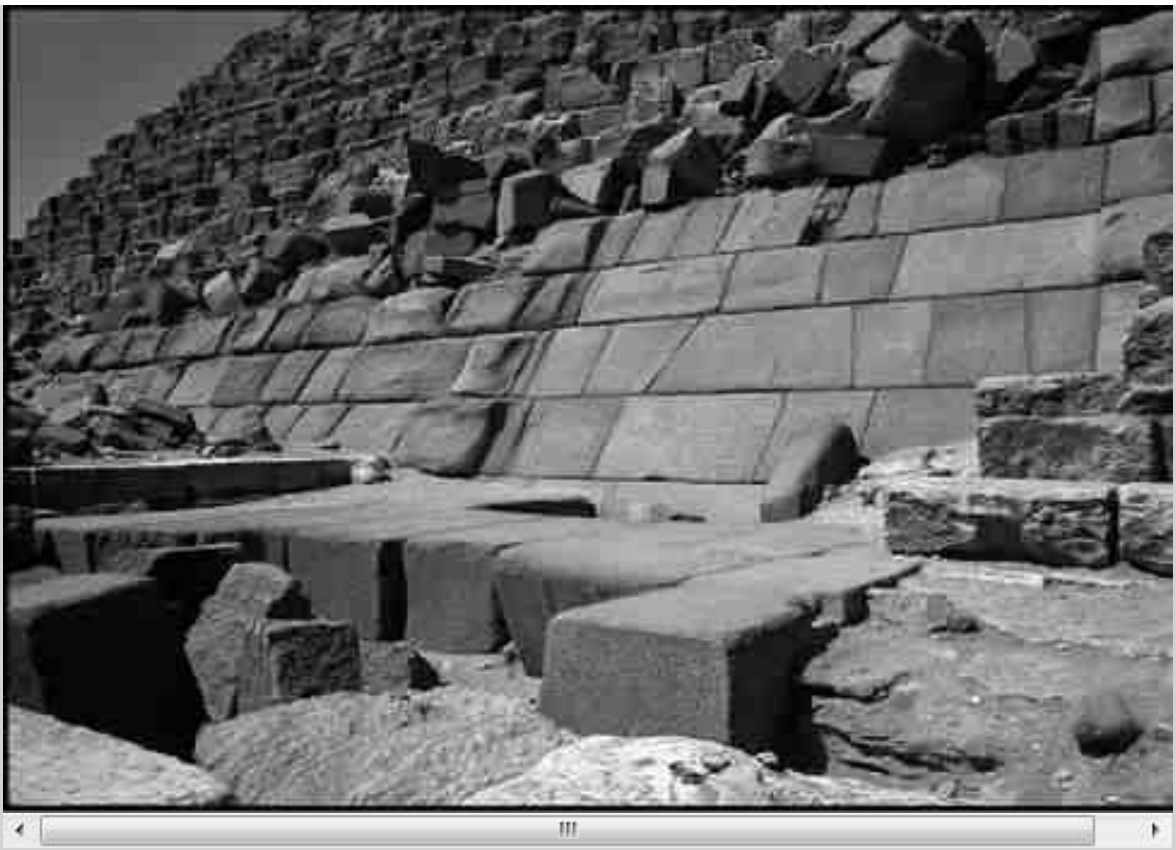
The smooth-cased "true" pyramids were symbolic depictions in stone of the sun's rays bursting through the clouds, with the king's mortuary temple on the east side, the side of the rising sun (see Box 4.1).

Box 4.1 Discoveries *The Pyramids of Giza*

The Pyramids of Giza are one of the marvels of the ancient world (Figure 4.7). How did the Egyptians, armed with only simple technology, build such enormous structures, apparently within a relatively short period of time? The pyramids would be a stupendous undertaking even for twenty-first-century contractors with elaborate, heavy machinery and unlimited construction budgets. Egyptian construction methods were simple but highly effective. Their tools were little more than stone and copper hammers, mallets, grinders, and saws. The Egyptians' expertise lay in their ability to organize, feed, and deploy large numbers of artisans and unskilled laborers to quarry, haul, and dress stone. Much of the stone for the pyramids came from quarries nearby, while a rock-cut harbor close to the Giza plateau brought rubble and finished blocks to the heart of the site. Every flood season, when agriculture was at a standstill, the government organized thousands of villagers into construction teams, who quarried stone and transported rubble and finished blocks up the earthen ramps that rose round the pyramid. First, the plateau was leveled, then masons cut a grid of channels into the rock, filling them with water to level the base. Next, the architects built a circular mud-brick enclosure, the top of which formed a level horizon. Then they sighted key stars with a notched stick, marking the points where they rose and set on the wall. This enabled them to lay out north-south lines—the base of the pyramid. Meanwhile, a canal and causeway were built to bring supplies to the site.

FIGURE 4.7A The Pyramids of Giza, built by successive Old Kingdom pharaohs Khufu, Khafre, and Menkaure in the twenty-sixth century B.C. Will and Deni McIntyre/Photo Researchers/Science Source.

Figure 4.7B Pyramid of Menkaure at Giza, showing remains of the original smooth casing stones that covered the sides. Chris Scarre

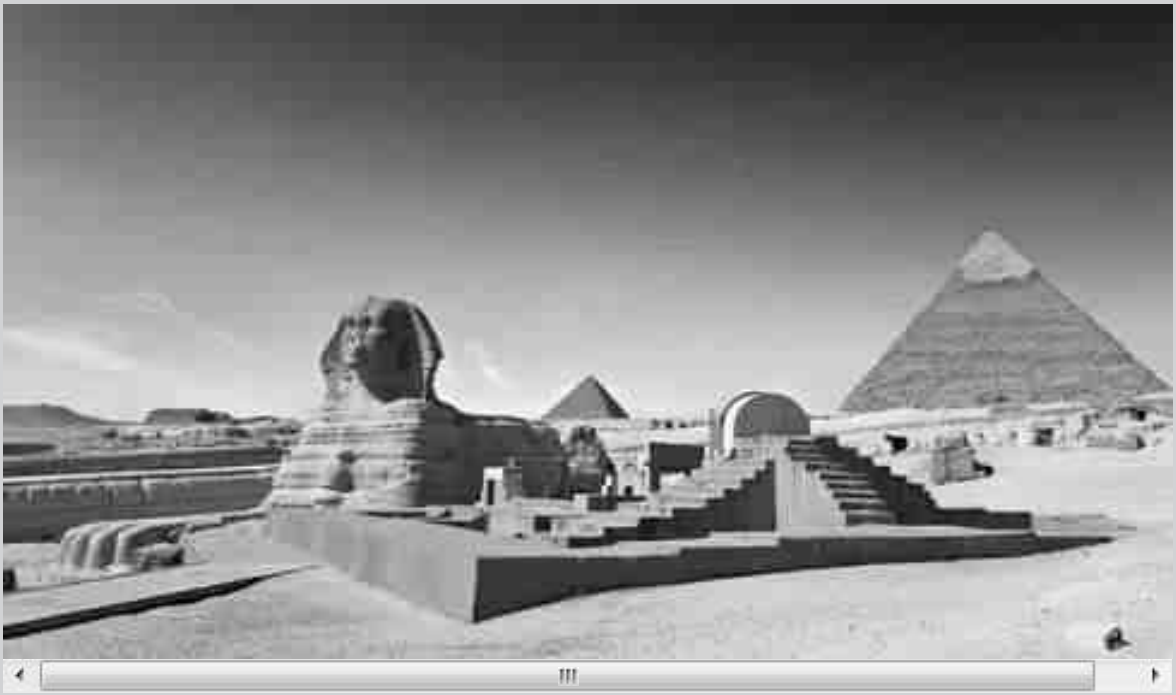


Course by course, the pyramid rose from the plateau, the passages and burial chamber constructed and covered with ever-rising boulders. Long beforehand, the architects had calculated the correct dimensions for a massive mud-brick ramp that spiraled up the side of the growing pyramid. Hundreds of men hauled blocks on sledges up the long ramp. Dozens of laborers ran ahead of them, throwing down buckets of water to lubricate the surface. (Experiments by French scientists have shown that Nile mud is a wonderful lubricant for moving heavy weights on sleds.) After years of hauling, the king’s priests supervised the placing of a gilded pyramidion atop the pyramid. Then expert masons smoothed the slant-faced and polished casing stones, working downward as the ramp was removed brick by brick and literally melted in the Nile. When Khufu died in c. 2566 b.c and was buried in his pyramid, his funerary barge was buried in a special chamber close to his sepulcher, ready to assemble for a journey in the afterworld. Even today, lapped by the suburbs of Cairo, the Pyramids of Giza are an awe-inspiring tribute to the ruthless genius and precision of those who built them. They were harsh taskmasters. The skeletons of workers in cemeteries by the

pyramids show many signs of malnutrition and disease. From carrying heavy loads, their spines are bent over, the bones inflamed, which caused great discomfort. Egyptian anthropologist Azza Sarry el-Din has studied 162 skeletons of the haves and have-nots of the Old Kingdom from these cemeteries. The overworked commoners lived to between eighteen and forty years of age. Privilege brought better food, fewer diseases, and a life expectancy between fifty and seventy-five.

By the time King Khafre built his slightly smaller pyramid and temple complex immediately to the southwest in c. 2560 B.C., the Giza plateau was an elaborate mortuary complex. It was Khafre who commissioned the carving of the Sphinx from a convenient outcrop (see Figure 4.8); 73 meters (240 feet) long, the vast image was plastered and painted brightly in its heyday. The recumbent lion with Khafre's head served as guardian of the sacred precincts, as keeper of the threshold. Khafre wore the royal beard and headdress with its symbolic cobra of Lower Egypt.

FIGURE 4.8 The Sphinx at Giza, modeled from a bedrock outcrop by Khafre c. 2560 B.C. iStock.



Khafre's successor, Menkaure, built a third and smaller pyramid, again to the southwest, in 2520 B.C. This was hastily completed, perhaps because the king died unexpectedly, but by this time the tempo of pyramid building was slowing. The last of the Giza pyramids is about a third of the size of its predecessor. By the end of the Fourth Dynasty (2494 B.C.), royal pretensions had scaled down, perhaps because it was simply too expensive to erect such large sepulchers. It may simply have been a matter of economic exhaustion, for the sheer effort of the organization and feeding of so many people must have been staggering, especially in poor flood years.

The court cemeteries and pyramid complexes of the Old Kingdom pharaohs extend over a 35–kilometer (22–mile) stretch of the Western Desert's edge, mostly slightly north of the royal capital at Memphis. Sneferu was the first Fourth Dynasty pharaoh. He built no fewer than three pyramids, which bridged a transition from a stepped to true pyramid design. Sneferu's son and successor, Khufu (c. 2589–2566 B.C.), built the Great Pyramid of Giza, one of the spectacular wonders of ancient Africa and one of the Seven Wonders of the Ancient World. It covers 5.3 hectares (13.1 acres) and is 146 meters (481 feet) high. Well over 2 million limestone blocks, some weighing 15 tons apiece, went into its construction. A long causeway linked each pyramid in the Giza complex to a royal mortuary temple. These were austere buildings that housed statues of the king, best shown in the complex of Khafre, who built the second pyramid of Giza. Khafre's temple was crafted in limestone and granite. Ceiling-height louvers let in a diffused glow that shone on the royal figures within. Khafre himself sat on a royal throne, protected by the god Horus, who wrapped his wings around the nape of the pharaoh's neck. The nearby pyramids vested these temples with great authority, for they associated the ruler with what was, in effect, a powerful ancestor cult that linked them to their predecessors and to the gods.

We do not know why the pharaohs suddenly embarked on this frenzy of pyramid construction, with all the accompanying demands that it made on the fledgling state. Their construction, like other major public works in Egypt, was a triumph of bureaucratic organization—transporting food and building materials and then the skilled artisans and workers to quarry, dig, and drag stone into place. What is staggering is the efficient management overview,

achieved without computers and deploying and supporting thousands of villagers for short periods of time as they fulfilled their annual tax-by-labor obligations to the state.

The supervision of construction consumed many hours of scribal time, scrutinizing and measuring precise quantities of raw materials, even ensuring that each laborer carried, transported, or dug his proper day's work for the rations he received. For example, ten cubic cubits (a cubit is 52 centimeters [20.6 inches]) was the daily norm for a man transporting raw materials. The scribe's pen was as much a driving force behind construction as the ingenuity of the king's engineers or the supervisors who drove on the labor gangs.

The level of centralized control over the building of the pyramids is illustrated by the extensive workers' town overlooking the Nile floodplain immediately to the south of the Giza complex. Within this were several barrack-like buildings, rectangular blocks built of mud-brick and divided into long parallel narrow galleries 4.5–4.8 m (14 ft 9 in to 15 ft 9 in) wide and around 34.5 m (113 ft) long. These galleries had mud-brick sleeping benches, and evidence too of hearths and ovens. Each gallery would have been able to accommodate forty to fifty people, and given that the thick side walls probably supported an upper story, the whole complex was probably the residence of several thousand people. One building has been interpreted as a communal dining hall. Another may have been an overseer's house, and there were also specialized facilities, such as the bakeries that would have been needed to feed such a large workforce. The buildings were separated from the sacred precincts around the pyramids themselves by a massive stone wall, 7 meters (23 feet) high, with a central gate through which the builders must have passed every working day, morning and evening. There was also a wall around the other landward sides of the workers' town, suggesting that movement inside and out was tightly controlled. Beyond the walled enclosure to the south lived a more privileged group of scribes and administrators. They left behind them a massive dump of clay sealings which refer to high officials of the Egyptian state. They also show that the town was occupied for less than fifty years, and that it was decommissioned once the construction of the third of the Giza pyramids, that of King Menkaure, had been completed.

Close to the pyramids, corings made in the mud of the Nile floodplain have revealed the location of canals and harbors that could have been used during the annual Nile inundation to bring barges and boats to the very edge of the construction site. One of these harbors stood immediately in front of

the Valley Temple that was part of Khafre's pyramid complex. Another was associated with his predecessor Khufu. They would have allowed heavy limestone blocks to be shipped from the quarries at Tura on the opposite side of the Nile for the outer casing of the pyramids, along with other essential supplies.

But that was not all. The impact of pyramid construction was felt far beyond Giza itself, and even beyond the Nile Valley. Recent discoveries at Wadi el-Jarf on the arid Red Sea coast have revealed a harbor and storage facility built specifically to supply Khufu's building project at Giza (see Box 4.2).

Box 4.2 Khufu's Red Sea Harbor

The Great Pyramid at Giza was not the only major project to be undertaken in the reign of King Khufu. In 2008, an Old Kingdom harbor and storeroom complex was discovered by a team of French archaeologists led by Pierre Tallet and Gregory Marouard at Wadi al-Jarf, on the Red Sea coast. In this harsh desert landscape, a major logistical base had been constructed to support seaborne trade with the Sinai Peninsula, rich in mineral resources. The harbor itself was formed by an L-shaped breakwater creating a sheltered anchorage. No fewer than twenty-two limestone anchors have been recovered from the seabed, left by ships that must once have moored here.

On the coastal plain some 200 meters (650 feet) back from the shoreline were two rectangular stone-walled buildings divided into long parallel rooms. These may have been barracks for the workmen. A further ninety-nine stone anchors were found here, carefully stacked together perhaps after the ships had been taken out of the water over winter. Some of the anchors bore the names of the vessels to which they belonged, painted in red or black hieroglyphs.

Yet further from the shore, the land rises to low rocky hills, and here the archaeologists have discovered some thirty rock-cut galleries, up to 2.5–m (8 ft) high and over 30–m (100 ft) long. Their entrances had been carefully sealed with limestone blocks and clay after the site was decommissioned, and had evidently held materials of value. In a few of them were remains of boats, which had been dismantled and stored in

these galleries. One of the most remarkable finds from the site, however, was not within these galleries but immediately outside them. Among these blocking stones at the gallery entrances was a large cache of papyrus documents. The texts are in hieratic (a cursive form of hieroglyphic) and give us a precise date: the twenty-seventh year of King Khufu's reign. Still more surprising, many of these texts deal not with activities at Wadi al-Jarf but with the building of the Great Pyramid at Giza, 200 kms (115 miles) away across the Eastern Desert. They show us that the pyramid was nearing completion at this time, and that the casing stones were being quarried, shipped, and placed in position.

The evidence suggests that the Wadi al-Jarf harbor and storerooms were an integral part of the Great Pyramid project, perhaps established to store copper shipped from Sinai before its onward journey to make the tools that were needed to cut the stone blocks for the pyramid. Once Khufu's pyramid was complete, the site was mothballed, with the intention no doubt of returning within a few years, when new building projects created the need for new supplies of copper and other raw materials. Instead, it lay dormant for more than four and half millennia until rediscovered by twenty-first-century archaeologists.

Even after the pyramids were completed, small armies of priests and workers labored to fulfill the dead pharaoh's needs in the afterlife. New villages and estates were founded near Giza to service the needs of the royal cults and feed their servants. Well-built stone sepulchers housed prosperous supervisors, such as the director of the draftsmen and the overseer of masonry. Another was the tomb of Nefer-thieth, Supervisor of the Royal Palace, who had two wives and eighteen children. His senior wife, Neferhetepes, was a weaver, but many scenes in the tomb depict bread and beer making. Fourteen different types of beer and cakes are listed in his wife's funerary offerings! Most of the 600-plus pyramid workers' tombs, however, were less than a few feet square. None of the workers were mummified, at that time still a privilege reserved for the elite, but their bones tell of harsh lives of unremitting toil. Arthritis and degenerative back ailments from backbreaking labor were commonplace.

The pharaohs started a great engine of growth by commissioning massive, labor-intensive public works. The state became the great provider. Perhaps

the pyramids were built as a means of linking the people to their guardian, the king, and to the sun god, the source of human life and of bountiful harvests. The relationship between the king and his subjects was both reciprocal and spiritual. The pharaoh was a divine king, a tangible divinity, whose person was served by annual labor. In short, pyramid building created public works that helped define the authority of the ruler and make his subjects dependent on him.

Pyramids continued to be built by later pharaohs, but none of them rivaled in scale the series built at Giza. As we have seen, the third of the Giza pyramids, that of Menkaure, was smaller than those of his predecessors, and as the Fourth Dynasty gave place to the Fifth and Sixth Dynasties, royal pyramids became smaller and more standardized. This may reflect a gradual erosion of royal power as the Old Kingdom progressed; although it could also be argued that the Giza pyramids established the power of the state, drawing the whole of the Egyptian population together in these massive undertakings, and that later rulers did not need to embark on such ambitious projects to assert their power.

“The Herdsman of This Land”

The capital of Old Kingdom Egypt was at Memphis, where the royal court resided. Here both the pharaoh and the chief vizier lived. The king ruled by his own word, following no written laws, only the precedents set by kings before him. The political and religious powers of the pharaohs changed somewhat through time, but essential continuity was maintained through many dynasties of supreme rulers. The king was the holder of a divine office. He was the “good god,” a specific incarnation of Horus, the sky and falcon deity, who was, in turn, closely associated with the sun cult of Re, the sun god. The king’s was an intensely political existence, hemmed in by elaborate protocol and ritual observance. “There was a set time not only for his holding audience or rendering judgement, but even for his taking a walk, bathing, and sleeping with his wife,” reported one Greek writer in later times.

We know little of royal routines or of town life, but we know that many high officials had strong roots in the countryside where they were born. Others were born in towns, but by the New Kingdom, the country estate had become the image of luxury for the wealthy and powerful. Lively paintings and reliefs on the walls of the nobility’s rock-cut tombs create an idyllic

dream-like image of what life was supposed to be like after death. We see the benevolent owner and his wife, living at ease on their estate. They supervise the sowing and harvesting of the grain, the winnowing of the seed, the baking of the bread, the brewing of the beer, and the trampling of the grapes. Cattle are raised and butchered, birds trapped, and poultry fattened. Artisans are hard at work making furniture, building funerary boats, and preparing possessions for the afterlife. The owner spears fish, hunts waterfowl, goes after hippopotamus, and inspects his livestock (see Figure 4.9). The estate servants work hard, their trials and tribulations carefully recorded as they argue with a tax collector or wrestle with a stubborn donkey. The tomb scenes give an impression of a lively, colorful society, where the continuity of life between the world of the living and that of eternity was all important. But, in reality, most commoners lived lives of daily routine and hard work, underpinned by a strong seasonal element when the focus of the work changed.

FIGURE 4.9 Egyptian tomb model showing the noble Meketre inspecting his livestock. Meketre served as High Steward under several Egyptian pharaohs at the beginning of the Middle Kingdom c. 1980 B.C. Egyptian Museum, Cairo. Copyright De Agostini Picture Library/Scala, Florence.

Old Kingdom Egypt was a time of powerful, confident rulers, of a virile state governed by a privileged class of royal relatives and high officials. Their talents created a civilization that was for the benefit of a tiny minority. It was for this privileged elite, headed by a divine king, that Egyptian merchants traded for the famed cedars of Lebanon; mined turquoise and copper in Sinai; and sought ivory, semiprecious stones, and mercenaries for Egypt's armies from Nubia.

THE FIRST INTERMEDIATE PERIOD (2134–2040 B.C.)

The prosperity lasted for 300 years, but eventually the system fractured and fragmented. The last great Old Kingdom pharaoh was Pepi II (2246–2152 B.C.), who reigned for ninety-four years, having ascended the throne as a six-year-old. His successors never matched his authority. As the central power of the state declined, so local leaders (nomarchs) became more or less

independent rulers within their own provinces. This decline in the monarchy coincided with a prolonged drought cycle, which settled over northern Africa after 2250 B.C. The droughts of early dynastic times had taught the pharaohs the importance of centrally controlled agriculture. They had responded to new economic realities by expanding irrigation works, canals, and the agricultural development of the Delta. In the short term, they were so successful that Egypt's population had risen to more than a million by 2250 B.C. But the intensification of agriculture made the Egyptians even more vulnerable, for when another lean cycle struck in that year, there were many more mouths to feed. There were repeated famines for more than 300 years. Contemporary writers refer to widespread plundering and anarchy, to drinking water shortages and corpses rotting in the fields. "The Nile was empty and men crossed over on foot," laments a chronicler of the day. Some of this may have been hyperbole, but it is clear that there was widespread dissatisfaction and unrest among the Egyptian populace as a succession of short-lived rulers came and went.

The leaders who profited from the disaster were not the pharaohs but the local nomarchs (provincial governors), who were able to maintain their irrigation works in good order and maintain basic food supplies. Egypt became a land in turmoil, a patchwork of competing kingdoms, as long-distance trade with the Levant dried up and the exploitation of mines in the Sinai Desert ceased. The strongest leaders were those who managed to feed their people and ward off marauders from the desert. When Egyptologist Herbert Winlock excavated an Eleventh Dynasty tomb at Deir el-Bahri near Thebes, he found graphic evidence for the vicious warfare of the day. The sepulcher contained the desiccated bodies of sixty young Theban soldiers. They were war casualties, men who fell attacking a fortress and were showered with ebony-tipped arrows and slingshots from high above. As they tried to sap the defenses, deadly arrows pierced their exposed shoulders. The attack was beaten off. The defenders searched for the enemy casualties, grabbed them by their hair, and clubbed or stabbed them to death. Some of the corpses bore the telltale tear wounds of vultures and ravens. A later attack must have been successful, for someone gathered up the corpses and buried them.

THE MIDDLE KINGDOM (2040–1640 B.C.): THE ORGANIZED OASIS

The soldiers Winlock described may have died when a Theban prince named Mentuhotep II defeated his rivals in the north, around the entrance to the Fayum, and reunited Egypt under his rule around 2040 B.C. Mentuhotep was a southerner who made his capital at Thebes. He reigned until 2010 B.C., bequeathing a peaceful and prosperous kingdom to his son. But unity was superficial, for ambitious officials vied for supreme power. It was not until Amenemhet I seized the throne in 1991 B.C. and moved the capital downstream to Lisht at the border between Upper and Lower Egypt that political stability once again came to Egypt.

By this time, the pharaohs were concerned both with internal security and with expanding or consolidating their borders. Amenemhet and his successors made a determined effort to subjugate Nubia and established fortified towns as far south as Kerma, above the Third Cataract (see Chapter 12). They also consolidated the northeastern boundary of the kingdom with the "Walls of the Prince," fortified strongholds set up at strategic points to guard the main routes from the Sinai Desert into Egypt. At the same time, trade relations with the Levant expanded dramatically. The pharaohs mined copper, gold, and turquoise in Sinai and traded cedar from Lebanon. Objects bearing their inscriptions have been found as far afield as Byblos and the port of Ugarit on the northern Syrian coast. It was from such centers that items from the Aegean Islands and Minoan towns on Crete reached the Nile (Chapter 9).

The government also tried to increase agricultural production. At the height of the Middle Kingdom, the pharaoh Senusret II began the development of the Fayyum oasis about 80 kilometers (50 miles) southwest of Memphis. He and his successors turned the marshy oasis into a vast network of fields and irrigation canals protected by large dikes, an unprecedented agricultural project that provided high crop yields for the state, even in droughts. This kind of organized irrigation was very different from the informal, village-based canals and drainage ditches that marked most earlier Egyptian agriculture. The Fayyum project was only one manifestation of a state concerned with remodeling a society with strong local roots into a closely regimented and centralized one, which established planned towns

even in sparsely populated areas. The pharaohs strove for an organized oasis, a state run by prosperous officials.

Enormous public works and a new series of royal pyramids required small armies of workers, sometimes housed in special communities some distance from their place of work. The Middle Kingdom town at Kahun (known to the Egyptians as *Hetep-Senusret*, "King Senusret is at peace") stood close to the entrance to the Fayyum, near the pyramid of Senusret II. Here lived the priests and workers responsible for the king's mortuary cult, as well as people engaged in other construction works and agriculture. Kahun lay inside mud-brick walls, the interior laid out on a strict grid pattern of small houses and streets. Egyptologist Flinders Petrie uncovered intricately designed, fairly large houses with substantial granaries, in which household activities revolved around an inner court and walled garden. Much smaller houses outnumbered these residences by about 20 to 1, with an estimated 3,000 people living within the tightly packed community. The town plan reflects a society with well-defined social classes, reflected in house design as well as occupation.

Papyri found during Petrie's excavations reveal the existence of a mayor, legal offices, and a prison. They also contain census data: for example, the household of a mortuary priest with only one son and daughter but many "serfs," some of them a product of his office, others domestic servants, "field laborers," cooks, tutors, and women who were "clothmakers" and gardeners. These groups of workers depended on the granaries of larger houses for their rations, thereby forming the economic teams that were so much a part of Egyptian society. Kahun's population also included scribes and soldiers and numerous small households of half a dozen people or more, many of them relatives and widows with dependent children.

Kahun represents the ultimate in Egyptian bureaucracy—a town laid out by noble officials with little conception of the realities of society. By contrast, later planned settlements such as the New Kingdom pharaoh Akhenaten's capital at el-Amarna were much more loosely organized. The Middle Kingdom pharaohs organized Kahun into two levels: leading officials and others. In fact, the papyri reveal a more complex reality, that of individuals and households who were wrestling with debts and children, sudden inheritances, and care for the elderly.

Unfortunately, we know little of Middle Kingdom religious buildings, many of which were remodeled during the New Kingdom. But many temples

throughout Egypt were probably given their first “formal” buildings and renewed royal patronage during the Middle Kingdom, from Tell Ibrahim Awad in the north to Tod and Aswan in the south. The tomb and mortuary temple of Mentuhotep II on the west bank of the Nile at Thebes give some impression of their magnificence. Mentuhotep’s imposing resting place lay in a bay of cliffs, a double-colonnaded temple complex surmounted by a pyramid or mastaba, thought to be a depiction of the primeval mound of Egyptian legend. A 950–meter (3,100–foot) causeway lined with statues of Osiris led to a temple close to the river.

The Middle Kingdom has been described as the classic period of Egyptian civilization, when the pharaohs became more human and more approachable than their Old Kingdom predecessors, who cast themselves in the role of gods. During these centuries, Egypt’s rulers strove to create a kingdom in the image of a bureaucratic Utopia, a realm where there were logical, often mathematical solutions to every economic problem. The experiment was successful for a while but faltered when Egypt’s human and natural resources proved unequal to the task.

The last great Middle Kingdom pharaoh was Amenemhet III (1844–1797 B.C.), who reigned for forty-seven years and used his wealth to build colossal temples and to commission magnificent statuary. Amenemhet died in 1797 B.C., just as another cycle of irregular floods descended on the Nile. A succession of weak pharaohs followed rapidly one after the other as political power passed to provincial governors with the organized food supplies to tide the country over hungry years. Once again, Egypt split into local kingdoms. Nobles in Thebes competed with powerful rivals downstream and with new rulers in the Delta.

THE SECOND INTERMEDIATE PERIOD (1640–1550 B.C.)

By the Thirteenth Dynasty (1783–c. 1640 B.C.), large numbers of Asiatics lived in Egypt. They were cooks and brewers, seamstresses, and merchants. Many of the finest Egyptian winemakers came from Syria. Some foreigners assumed positions of influence and trust in noble households. Others were nomadic herders who moved into the Delta to seek sanctuary from drought or to buy corn. There were also merchants, traders, and those in charge of caravans into the Sinai copper and turquoise mining areas. They ensured security, but at a price—land on which they could settle in the eastern Delta.

Their chiefs were called *Hikau khasut*, "Princes of Desert Uplands," a term that the industrious Manetho transcribed as *Hyksos*, referring not only to chiefs but also to all their people.

By the seventeenth century B.C., the Delta had come under the political control of a line of Hyksos kings, who had taken advantage of the weakness of the Thirteenth Dynasty pharaohs to seize power over Lower Egypt, ruling it from the town of Avaris. They assumed the titles, traditions, and religious beliefs of the pharaohs, acquiring such prestige that the princes of Thebes paid them tribute, perhaps linking the royal houses through intermarriage.

The Second Intermediate Period was a turning point in Egyptian history. The Hyksos opened Egypt up to wider influences and innovations, from the mainstream of the East Mediterranean world. That included more sophisticated bronze technology, and silver traded from Asian mines. In their battles with the Thebans, the Hyksos brought new weaponry to the Nile—stronger bows, new forms of swords and daggers, and the horse-drawn chariot. In adopting these innovations, Egypt developed new economic and military strength that enabled subsequent pharaohs to play a leading role beyond the Nile Valley in the wider eastern Mediterranean world.

THE NEW KINGDOM (1550–1070 B.C.): IMPERIAL KINGS

The relationship between the Hyksos and the Theban state was never comfortable but often a matter of angry diplomatic exchanges and sometimes fighting. Around 1550 B.C., a Theban prince named Kamose sailed downstream and attacked Hyksos strongholds along the river. His son Ahmose (1550–1525 B.C.) continued the offensive and took Avaris after a long and bloody siege. Ahmose was determined to secure his Asian frontier, so he chased the Hyksos as far as the town of Sharuhen in southwestern Palestine and into Syria. From this moment, Egypt became an imperial power, a major political force in the fragile balance of power in the eastern Mediterranean (see Box 4.3).

Box 4.3 Discoveries *Avaris*

Ahmose took no chances in the strategically vulnerable Delta. He rebuilt the Hyksos town of Avaris as a heavily defended fortress. The new town

rose on the ruins of the Hyksos citadel. A huge mud-brick platform with a riverside gate gave a magnificent view over the Pelusiac branch of the Nile, at that time a deep water channel to the Mediterranean. Military barracks, several temples, storerooms, and a palace for the pharaoh once lay behind the walls of the citadel. Unfortunately, ancient builders quarried away the abandoned structures many centuries ago, leaving a gigantic archaeological jigsaw behind them. Instead of excavating buildings, Austrian Egyptologist Manfred Bietak and his colleagues have spent years dissecting huge piles of mud-brick and wall plaster—with astounding results.

Bietak unearthed hundreds of lime wall-plaster fragments adorned with paintings executed by Minoan artists from Crete. The Cretan motifs and style of the wall paintings are unmistakable—a bearded priest, performing acrobats, river landscapes, and craggy mountains like those in Crete, unknown in Egypt. Such scenes are not unique. Cretan wall paintings occur at other Bronze Age cities in the Levant, as Cretan kings sent artists abroad as tokens of favor to important trading partners. But only the Avaris palace boasts of bull-leaping scenes. One frieze scene shows bulls, bull-leapers, and others cavorting against a labyrinthine background, characteristic of Cretan palace art. A bull charges, his face turned toward the artist. The bull-leaper grasps the beast around the neck, his legs in the air. Another bull lunges nearby, but this time the acrobat has fallen off the animal.

Why would Cretan artists paint friezes on the walls of an Egyptian palace? The explanation may lie not in Egypt, but in Crete. A century ago, archaeologist Arthur Evans excavated the Palace of Minos at Knossos in northern Crete and revealed the hitherto unknown Minoan civilization to an astonished scholarly world. The palace was a labyrinth of courts and small rooms, many adorned with magnificent wall paintings of people and bulls. Evans reconstructed some of the friezes, somewhat imaginatively according to his critics. Goddesses and priestesses, processions, bulls, mythic animals, and lions, even waving grass and flowers: Knossos art is lively and highly distinctive. The most famous scenes depict acrobats jumping over fierce bulls, twisting and turning in the air as they cavort with the charging animal. Despite extended search, no one had ever found bull-leaper frescoes anywhere

else, until they turned up at Avaris. They were unique to the Western court at Knossos, the greatest Minoan palace ever built.

Manfred Bietak believes the Avaris friezes depict the distant Western court. Avaris and Knossos share other royal art and symbolism, too—depictions of mythical griffins and felines, animals at the summit of nature's hierarchy. At Knossos, griffins protected goddesses and queens. Maybe they did at Avaris as well. Bietak wonders if a diplomatic marriage between the Egyptian and Knossos royal families might not be involved. Ahmose is known to have married two of his sisters, but may have had a Cretan wife as well: We do not yet know. Perhaps Ahmose, having ousted the Hyksos, feared a surprise attack by land and sea. The Minoans were the best seafarers of the day, so the pharaoh may have cut a deal with the lord of Knossos—protection of sea lanes in exchange for access to Egyptian ports and her abundant gold. We know that Minoan trade delegations were soon familiar sights at the Egyptian court. They appear on the walls of Theban nobles' tombs.

Avaris was a fortress and palace compound for the victorious pharaoh, a base for his campaigns in southern Palestine. Here troops could rest while their officers kept a close eye on Egypt's northeastern frontier. Here, too, Ahmose could embark his invading armies for a quick coastal passage to the strategic ports of the Levant. For centuries, Avaris remained a meeting place between Egypt and the eastern Mediterranean world. Polyglot crowds of artisans, seamen, and traders from the world without thronged her quays and streets. Perhaps the dockyard was *Peru-nefer* ("Happy Journey"), the famed harbor in Lower Egypt once thought to lie at Memphis upstream. Just under three centuries later, the city became the port for Ramesses II's royal residence at nearby Pi-Ramses and thrived as a vital link to the outside world.

Ahmose was well aware of the economic and strategic importance of his fortress. He realized only too well that the key to his power lay in consolidated, expanded frontiers, close political ties with potential rivals, and complete control of Nubian trade. Whether the pharaoh's officials liked it or not, Egypt had become part of what today we would call a "global economy." A vast web of economic and political interconnectedness linked the Nile with the Levant; with copper-rich Cyprus; with Turkey, Mesopotamia, and the Aegean islands. The

ancient world was linked together economically and politically as never before—and Egypt was an important part of it. Her products and raw materials, her ideas, knowledge, and religious beliefs were carried far and wide, by ship, on the backs of donkeys and people, in the hands of her armies. Soon New Kingdom Egypt achieved a wealth, sophistication, and power undreamed of in earlier times.

At the same time, Ahmose turned Egypt into an efficiently run military state, tolerating no rivals, rewarding his soldiers, and mercenaries with grants of land, but retaining economic power and wealth in his own hands. Like Mentuhotep in the Middle Kingdom, Ahmose set the tone for an entire era, the greatest in Egyptian history. The pharaoh became a national hero, a military leader who sat on a throne midway between the Asiatic world in the north and the black Nubian kingdoms of the south. He was an imperial ruler and a skilled general, the leader of a great power. Egypt became a major player in the shifting sands of eastern Mediterranean politics, competing with two great states: Mitanni, to the east of the Euphrates, and Hatti, the kingdom of the Hittites in Anatolia (see Chapter 7). Each wanted to control the lucrative trade in gold, copper, pottery, wine, oil and resin, of the eastern Mediterranean for itself.

The pharaohs financed their state and empire with Nubian gold, turning the lands upstream of the First Cataract into a lucrative colony (see Chapter 12). At the same time, the Egyptians expanded their trade routes down the Red Sea to the mysterious “Land of Punt,” which probably lay between the Red Sea and the Middle Nile, on the north and northwest flanks of the Ethiopian highlands in the modern eastern Sudan. A Punt expedition was a major undertaking: first an overland journey from Koptos on the Nile to the Red Sea coast, then by ship southward through windy, often treacherous waters. In 1472 B.C., the female pharaoh Hatshepsut sent a royal trading party to Punt. Spectacular reliefs on her mortuary temple chronicle the successful voyage. Separate scenes depict the ships under sail, the arrival at Punt, “very heavily with marvels of the country of Punt; all goodly fragrant woods of God’s Land, heaps of myrrh resin, with fresh myrrh trees, with ebony and pure ivory” (Breasted, 1906, p. 109). The story ends with the triumphant return to the god Amun’s sacred city: Thebes.

“The Estate of Amun”

Thebes, the home of Amun, was known to the Egyptians as “The City” or the “Estate of Amun.” The Temple of Amun at Karnak, mostly built during the Eighteenth Dynasty (1550–1307 B.C.), was the heart of the sacred capital, a great shrine built on the foundations of a much older town, which was leveled to create Amun’s home (Figure 4.10). The temple lay on the old city mound, surrounded by the buildings of the New Kingdom city. Karnak represented a major shift in public architecture. Earlier kings had built their most imposing monuments on the edges of the Western Desert, and local temples were usually modest mud-brick structures in the heart of a community. In contrast, Karnak and its lesser equivalents were settings for important public ceremonies and processions, when the boat-like shrine of Amun was paraded along carefully prepared routes. Religion now became public spectacle, a psychological way of influencing public opinion that was more subtle and probably more effective than the bureaucratic regulation of earlier times. It also allowed more people to share in the surplus of the temples and perhaps exotica from the Empire as food, drink, and rewards were handed out during the festival times. These could last for several weeks.

FIGURE 4.10 The Temple of Amun at Karnak. (a) The columns of the Hypostyle Hall, completed by pharaoh Ramesses II; the column capitals are shaped in the form of lotus flowers, symbols of rebirth in ancient Egyptian religion. (b) The tall monolithic obelisks with their pyramidal tops were gradually engulfed as successive rulers added more courts and pylons to the temple. Chris Scarre.

Karnak and its equivalents were surrounded by mud-brick walls, painted white and modeled like turreted battlements, which kept out most of the populace. The great pylons that marked the entrance bore brightly colored scenes of the king conquering his enemies in the presence of the gods. Karnak was a statement of raw imperial power but also the place where the gods found shelter and were nurtured by food offerings. In short, as Barry Kemp points out, the gods were landed gentry, fed from vast temple estates cultivated by smallholders who paid their rent in produce. Amun's temples owned cattle and mineral rights and maintained enormous grain stores. The mortuary temple of Ramesses II near Thebes had storerooms capable (theoretically) of feeding as many as 20,000 people. The wealth of the large temples and the authority of their gods were such that they were not only a major element in the New Kingdom economy but also an important factor in the affairs of state.

Amun-Re was the "king of the gods," a solar deity portrayed in human form and the source of fecundity. He was the divine father figure who conceived, then protected, the kings in life and in death. The great pageants at Thebes, the processions between the temples at Karnak and Luxor during the annual Opet festival, proclaimed to the populace that the king had renewed

his divine *ka*, or spiritual essence, in the innermost shrine of Amun himself. The myths, rituals, and great temples all served to guarantee the continuity of proper rule, a concept absolutely central to Egyptian thinking. Initially, the priesthood had little political power, for the ultimate authority lay in the hands of the king and his army of carefully trained scribes and military elite. Later, the balance of power shifted toward the priesthood—a possibility that had always been open, given the way the system was organized.

"The Estate of Amun" extended across the Nile to the western bank. Here the pharaohs erected an elaborate city of the dead. Soon after the beginning of the Eighteenth Dynasty, around 1505 B.C., Pharaoh Amenhotep I and his illustrious successors elected to be buried in secret, rock-cut tombs in the arid Valley of Kings on the west bank of the river opposite Thebes. The underground tombs evolved over the centuries to become models of the caverns of the underworld, traversed by the night sun until it was transformed in the burial chamber each dawn. The royal mortuary temples lay on the plain nearby, surrounded by the tombs of queens, princes, and court officials.

Generations of necropolis workers—masons, painters, and skilled artisans—lived in a compact laborers' community at Deir el-Medina nearby. The most expert among them were known as "Servitors of the Place of Truth," the Royal Necropolis. They aped the burial customs of their royal masters, constructing for themselves elaborate tombs, sometimes with small brick pyramids and fine wall paintings. But most laborers lived under harsh conditions. Contemporary records tell of strikes and absenteeism, sparse rations, and occasional violence. Many of the reported problems reflect the economic pressures and stresses at particular times suffered by the Egyptian state as a whole.

Akhenaten and Amarna

Amun's power came through association with the age-old cult of Re Harakhty, the primordial sun god. His Great Disk, Aten, illuminated the worlds of the living and the dead. Amun was all-powerful until Pharaoh Akhenaten came to the throne in 1353 B.C. The new ruler departed from religious orthodoxy by placing a greater emphasis on Aten alone, excluding all the old gods of the pantheon from their association with Re Harakhty. The process had begun some decades earlier, in the reigns of Tuthmosis IV and Amenhotep III, but Akhenaten took it much further, making Aten in effect a

divine pharaoh, the equivalent in heaven of the living king on earth. We do not know why Akhenaten altered the sacred canon, but the art of his day suggests that he regarded himself and his family as the sole intermediaries between the people and the sun god. Akhenaten expected to be adored like a god (Figure 4.11).

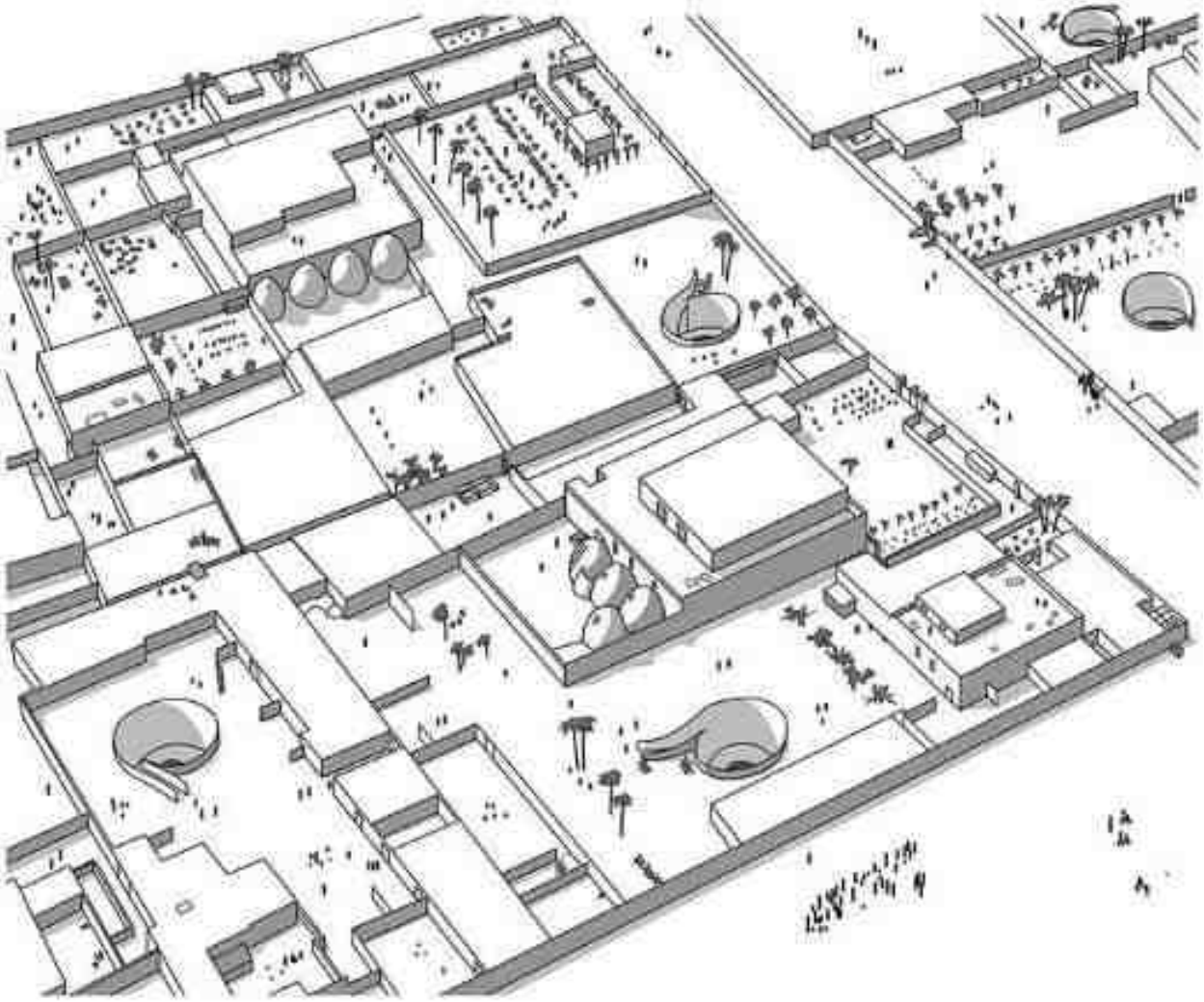
FIGURE 4.11 Carved relief showing the pharaoh Akhenaten (c. 1353–1335 B.C.) with his wife Nefertiti and three daughters. Akhenaten's reign launched an entirely new, representational art style: realistic, with an emphasis on the royal family. This was part of a vigorous attempt to reduce the power of the Theban priesthood of Amun and to strengthen Akhenaten's own secular and spiritual power. Aegyptisches Museum, Staatliche Museen, Berlin, Germany. Copyright Scala, Florence/bpk, Bildagentur fuer Kunst, Kultur und Geschichte, Berlin.

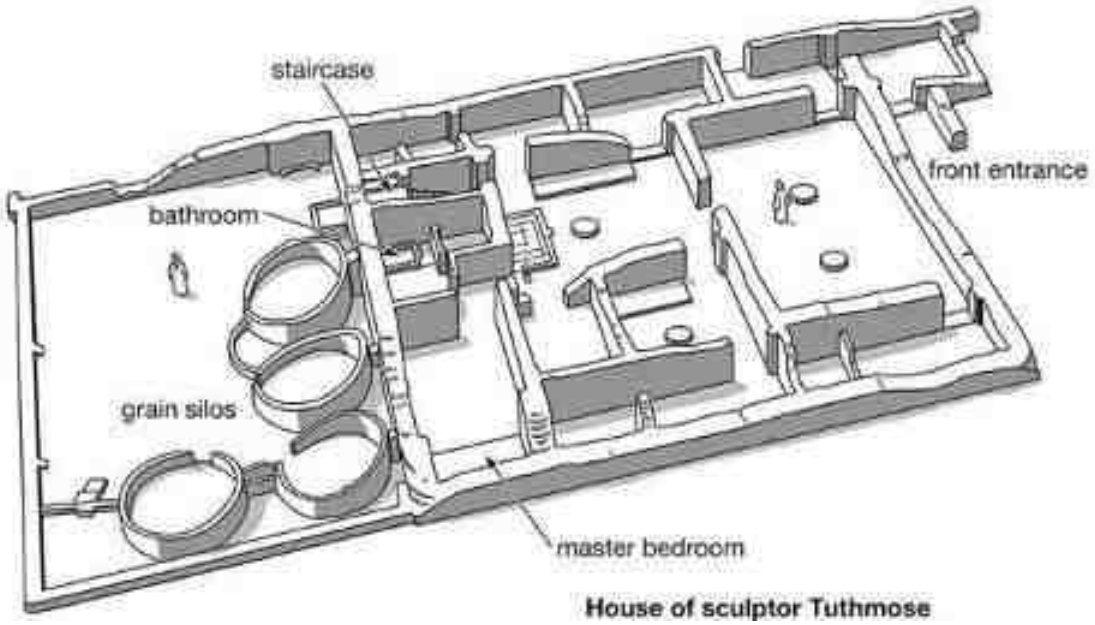
In the fifth year of his reign, the heretic pharaoh founded a new capital at Amarna downstream of Thebes, on land not associated with any established deity. Amarna was occupied for little more than a quarter of a century before it was abandoned, leaving an Egyptian city of more than 20,000 inhabitants for archaeologists to investigate. The ceremonial precincts of Amarna centered on a processional way that linked the North (royal) city to the central city. The fortified royal palace at the north end was isolated from the rest of Amarna. Here Akhenaten and his court resided in a self-sufficient, well-guarded community with its own warehouses. The pharaoh rode down the processional way on festival days, protected by his bodyguard as his subjects worshipped him. The road ended at the Great Palace, a huge structure by the waterfront with a central courtyard, where the king received emissaries and conducted many ceremonies, sometimes rewarding high officials who were dependent on his largesse. The administrative functions of state were performed in offices attached to the palace. It was here that the Bureau for the correspondence of the Pharaoh lay, the archive that housed the

now-famous Amarna diplomatic tablets (Chapter 7). The Great Temple of Aten stood nearby.

But Amarna's greatest significance lies in its unique archaeological evidence for New Kingdom Egyptian society. Most Amarna residents lived in two large housing tracts north and south of the central city, huddled in small houses along streets parallel to the river that were intersected by smaller alleys. Each flat-roofed dwelling stood in a small, walled compound among a maze of alleyways and garbage heaps. Each had a central living room with a low brick dais for receiving guests. Around the central space were reception rooms, bedrooms, and storage rooms. Wealthier people had larger houses, built to the same general design. We know the names of only a few individual owners, among them Re-nefer, a chief charioteer who lived in a modest house, and Tuthmose, a sculptor who carried out his work in small courtyards near his house in an area devoted to sculptors (see Figure 4.12). In the teeming city neighborhoods, papyri tell us how some prominent officials struggled to maintain a prosperous lifestyle, using income from their small country estates and donations from the king. Minor officials, domestic servants, merchants, fisherfolk, sailors, and farmers huddled in the crowded, smaller houses. Everyone had close ties to the countryside, to their home villages, often many miles away. Few Egyptians were true city dwellers. Egyptian cities were little more than large agglomerations of villages. Their inhabitants lived their lives in another world from that of the pharaoh, who dwelt in splendid isolation surrounded by his relatives and bodyguards, appearing at regular intervals to receive the adulation of his subjects.

FIGURE 4.12 Elite housing in the short-lived Egyptian "new town" of Amarna founded by Akhenaten. This reconstruction shows flat-roofed, two-story houses within walled compounds that also contained beehive-shaped granaries and circular wells accessed by spiral ramps. Courtesy of Barry Kemp, Director, Amarna Project: www.amarnatrust.com and www.amarnaproject.com.





House of sculptor Tuthmose

The Imperial Power

Religious fanatic, indolent madman, benevolent pacifist, or heretic—history's judgments on Akhenaten have rarely been favorable. He died in the seventeenth year of his reign, leaving behind a corrupt and chaotic kingdom. His successor, Smenkhkare, a son of Amenhotep III, reigned for a mere three years and was succeeded, in turn, by eight-year-old Tutankhamun (1333–1323 B.C.), who achieved in death an immortality that transcends that of all other pharaohs, simply because Howard Carter and Lord Carnarvon discovered his intact tomb in the Valley of Kings (see Figure 4.13).

FIGURE 4.13 Tutankhamun's tomb. (a) The antechamber with its jumble of furnishings (Hulton Archive/Getty Images). (b) The golden sarcophagus of the king. Tutankhamun's tomb furniture was so opulent that it has taken generations for us to appreciate its wealth and significance. The dead pharaoh traveled through the heavens in the sun god's barque. His many gold leaf and inlaid figures and amulets ensured his well-being during the eternal journey. At the same time, his tomb provided for his material needs—clothing, perfume and cosmetics, personal jewelry, and chests to keep them in. There were chairs, stools, beds, headrests, weapons, and hunting gear. Baskets and vases contained food and wine. Even the pharaoh's chariots lay in pieces inside the tomb. The tomb provides a fleeting portrait of the fabulous wealth of Egypt's court (Robert Harding World Imagery/Getty Images).

Tutankhamun presided over a troubled country, abandoned to chaos by the alienated gods. The young king's powerful and experienced advisers took the obvious course of someone reared in the deeply religious Egyptian world. They propitiated the gods by restoring the old spiritual order, rebuilding temples, and reverting to the dynastic traditions of early pharaohs. The cult of Amun was revived at Thebes and Amarna was abandoned. An able general named Horemheb campaigned in Syria, while Tutankhamun himself may have led a raiding party into Nubia in 1323 B.C. His unexpected death caught the court by surprise. It was not until Horemheb assumed the throne in 1319 B.C. that the old ways were fully restored.

The Ramesside pharaohs of the Nineteenth Dynasty (1307–1196 B.C.) who followed labored hard to elevate the kingdom to its former glory as an imperial power. Their wealth came from Nubian gold and far-flung trade, for Nubia was now an Egyptian dependency (Figure 4.14) (See Chapter 12). Ramesses II (1290–1224 B.C.) campaigned far into Syria until he met his match at the battle of Kadesh, where the Hittites fought his army to a standstill. From that moment on, Egypt steadily lost political influence in the Levant and began to close in upon itself once again.

FIGURE 4.14 Great Temple at Abu Simbel on the banks of the Nile in Lower Nubia, completed c. 1265 B.C. by Ramesses II as a statement of political power. The temple was moved to higher ground by UNESCO during the building of the Aswan Dam, which created Lake Nasser during the 1960s. Jan Wlodarczyk/Alamy Stock Photo.

THE TRANSFORMATION OF EGYPT (AFTER 1100 B.C.)

The Egyptian state was built around a powerful ideology for the glory of kings and gods. The pharaohs developed a system of government that maintained food surpluses and stable grain prices by intervening massively in the agricultural economy (Figure 4.15). The state deployed labor on public works of all kinds, feeding the workers with allocations of grain carefully rationed by achievement and rank. For more than 2,000 years, Egypt functioned successfully as a crude form of provider state, which defined the way in which people and a civilization should relate to each other. Broadly similar solutions developed in other parts of the world—along the Indus River and in Mesoamerica, for example.

FIGURE 4.15 Estate workers working in the fields of Menna, scribe of the fields, and estate inspector under pharaoh Amenhotep III (1391–1353 B.C.) of the Eighteenth Dynasty. Tomb painting from Deir el-Medina, Western Thebes. De Agostini/Getty Images.

During the Old and Middle Kingdoms, Egypt achieved much, its people living passively under a society in which their rulers controlled every aspect of daily life by bureaucratic regulation. But as excavations at the city of Amarna show us, the New Kingdom Egyptians lived under a more loosely structured state in which the interests of the pharaoh and individual assertiveness and initiative coexisted uncomfortably. The great king, surrounded by his courtiers and commemorated by art and festival, had held together Egyptian civilization for many centuries. But after Ramesses II, the shackles of royal authority were loosened as a series of weak kings presided over a faltering society.

By 1200 B.C., the delicate balance of power in the eastern Mediterranean dissolved as the Hittite empire disintegrated (Chapter 7). With the death of Ramesses III in 1163 B.C., Egypt entered a period of slow political decline.

Setbacks in Asia and a retreat from Nubia helped turn the vision of the Egyptians inward once again, to the confines of their lush homeland. The prestige of the throne dwindled. There was chronic corruption within the bureaucracy, resulting in the breakdown of the supply and resource management so crucial to the effective running of the Egyptian state. Bands of hungry soldiers periodically terrorized the population. Organized gangs of tomb robbers pillaged the royal graves in the Valley of Kings, greedy for the fabulous gold that lay beneath the ground (Box 4.4). Pharaohs who had once been gods on earth were now targets of blatant robbery.

Box 4.4 Voices *A Tomb-Robbing Scandal at Thebes*

We can imagine the careful plotting beforehand, the secret rendezvous in a desolate ravine, quiet figures moving stealthily through the pitch-black Egyptian night. Frantic digging in the dark: Candles in hand, the robbers grab as much portable treasure as they can and slip away before the sun rises. Such robbery was unavoidable. Every Egyptian knew the rich and powerful took treasure with them to eternity. Even one ornament from a pharaoh's sepulcher could keep a poor villager in food for years. The tomb robbers' nefarious trade was a silent war between loyal royal cemetery guards and those who preyed on the dead. No pharaoh was safe in his tomb, even Khufu, who built the Great Pyramid of Giza in 2550 B.C. Bold predators drugged or bribed guards and tunneled into the most inaccessible burial chambers.

A spectacular discovery in 1881 dramatizes the desperate struggle. Rumors reached the authorities in Thebes of exceptionally fine antiquities coming onto the market. They could only have come from a royal tomb. Suspicion fell on known grave robbers, the Rasoul brothers. They were hauled in for questioning, but to no avail. Eventually, the brothers quarreled, and one of them went to the police. He led archaeologist Emil Brugsch to an inconspicuous, rocky cleft in the desolate cliffs on the west bank opposite Thebes. Brugsch descended by rope into a tiny chamber crammed with priceless artifacts and royal mummies, including the bodies of some of Egypt's most powerful pharaohs, among them Ramesses II and Seti I.

The cache was a chaotic jumble of tomb furniture and mummies gathered together by royal priests. The royal tombs in the Valley of Kings near Thebes were comparatively sacrosanct during the reigns of the great pharaohs of the Eighteenth and Nineteenth Dynasties, when Egypt was prosperous and a large force of guards supervised the royal sepulchers. By 1200 B.C., her kings were much weaker. The custodians of royal tombs were lax, even corrupt. A wave of grave robbing enveloped Thebes. We know of this because a spectacular law case involving tomb robbing was heard during the twelfth century B.C.

The case involved Paser, the mayor of eastern Thebes, an honest but rather officious local bureaucrat, who became alarmed at the constant rumors of tomb robbing that came from the cemeteries on the west bank of the Nile. Perhaps he was anxious to ingratiate himself with higher authority, or to discredit his hated rival Pawero, mayor of Thebes of the Dead. Whatever his motive, Paser started an official investigation into tomb robbing, something that technically lay outside his jurisdiction. He soon uncovered all manner of disturbing testimony from actual eyewitnesses of grave robberies. Paser laid his case before the local vizier, who sent an official commission to inspect the tombs. A quick cover-up ensured they found little out of order. To Paser's embarrassment, his witnesses now denied their earlier testimony. He had underestimated the degree to which his rival controlled the looting.

Paser was a determined man. He continued to bombard the vizier with evidence of tomb robbing. A year later, even the highest officials could not deny that something was wrong. The vizier convened a new inquiry. Forty-five tomb robbers were brought before the court and beaten on the soles of their feet to extract confessions. Their testimony survives, ironically on papyri looted and sold to nineteenth-century tourists. One witness testified: "We found this august mummy of the king. There was a numerous list of amulets and ornaments of gold at his throat; its head had a mask of gold upon it" (Breasted, 1906, p. 265). He had watched as robbers stripped the ruler of his finery. The incense roaster of the temple of the sun god Amun recounted how a group of robbers approached him. "Come out," they said, "We are going to take plunder for bread to eat." The priest described how the robbers broke into a royal tomb and divided the spoil in baskets. "The scribe of the Necropolis was examined with the stick [until] he said: 'Stop, I will

tell.’” He confessed to the stealing of silver vases from a single tomb. When his memory faded, he was examined again “with the birch and the screw,” but to no avail. The case ended with savage punishments for the offenders, which probably included death by impalement. Some of the accused were acquitted when it became obvious that beatings produced false testimony. Not that the cases did much to stem the flood of robberies, for there are isolated mentions of later trials. The epidemic of looting was inevitable in a poverty-stricken country where wealth was for the few, more of it buried below ground than in the land of the living.

It may not have been only the poor residents of Western Thebes who coveted the wealth of the royal tombs. The tomb of Seti I was entered twice during the eleventh century B.C., his mummy rewrapped and those of his father and son (Ramesses I and II) brought into his tomb. In the following century Seti’s mummy was rewrapped again and moved twice more before reaching its final resting place at Deir el-Bahri, where the Rasoul brothers found it along with many royal mummies in 1881. This tangled history was recorded by priests in hieratic script on the Seti’s wooden coffin. The suspicion is that some of this activity was not to save the royal mummies from the looters, but part of an officially sanctioned removal of gold and other valuables from the royal tombs in the post-imperial period when the Egyptian state was strapped for cash.

As had happened before when royal authority declined, Egypt broke up into its constituent parts. Some have argued indeed that this was the “natural” state of being for Egypt and that the periods of total overall control were the unnatural eras. Eventually, military leaders seized control of Thebes and the priesthood of Amun, while a dynasty of merchants took control of the Delta. With their ascendance, the particular set of social, political, and economic structures that characterized the ancient Egyptian state passed into history, as the Nile became part of a much wider East Mediterranean world (Chapters 9 and 12).

Summary

The roots of Egyptian civilization lie in the Nile Valley itself, for the institutions of the pharaohs' state developed along the river after 4000 B.C. as competing kingdoms vied for control of trade routes and political power. The unification of Egypt around 3100 B.C. at the hands of King Horus Aha was followed by the Archaic period (3100–2680 B.C.), when the basic institutions of kingship and bureaucracy were established and writing appeared. In the Old Kingdom (c. 2680–2134 B.C.) the king was the supreme territorial claimant and the pyramids were built, demonstrating the centralized nature of the Egyptian state, the power and success of the administrative system, and the technological ability of Egyptian builders and engineers. After a short period of political unrest, Middle Kingdom pharaohs (2040–1640 B.C.) re-established a bureaucratic state with a strongly centralized organization, and marked a high point in the development of poetry and literature. After another interval of unrest, when Hyksos kings from Southwest Asia ruled northern Egypt, this gave way to the New Kingdom (1550–1070 B.C.), the period in which Egypt became an imperial power, competing with the Hittites and other neighbors in the Levant. Monumental temples and elaborate tombs testify to the prosperity and achievement of Egypt during these centuries, while the increasing availability of texts provides insights into Egyptian society and belief. The centralized Egyptian state gradually declined after 1070 B.C. Ultimately it became a province of the Roman Empire in 30 B.C.

CHAPTER 5

South Asia

The Indus Civilization

FIGURE 5.0 Terracotta figurine from the Indus city of Mohenjo-daro, Pakistan; third millennium B.C. DEA/G. NIMATALLAH/ De Agostini/Getty Images.

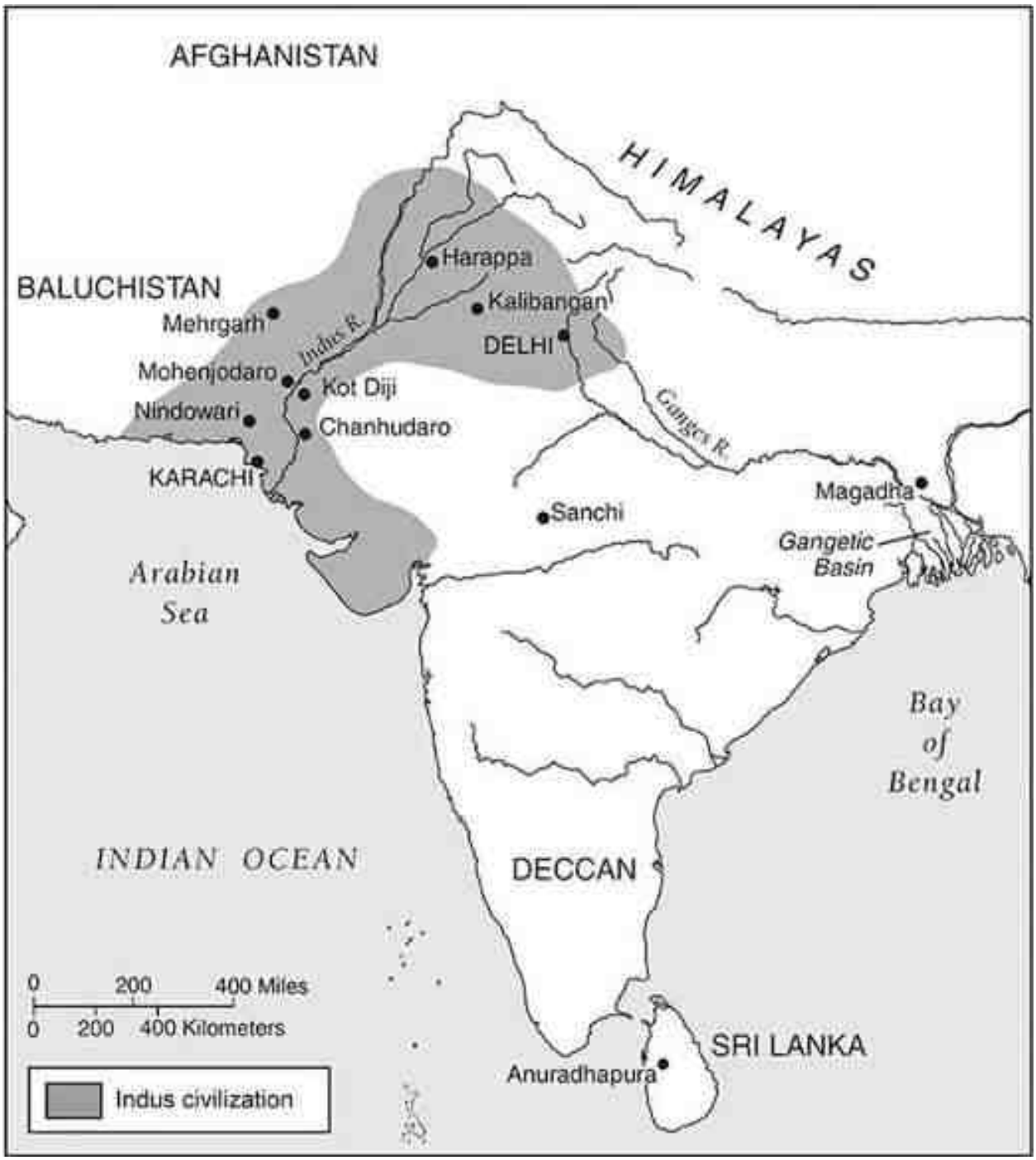
The yellow Baluchistan shoreline recedes into the far distance, shimmering in the intense haze of late afternoon. The weathered sailing vessel heels slightly as a gust of land breeze reaches the ship from the depths of an arid canyon ashore, bringing a scent of dust and dry undergrowth. The white breakers are only 100 yards away, but the skipper has sailed the desert coast many times, progressing for hundreds of miles on the fickle winds from the shore. His eyes search the smooth, blue water, looking for the telltale ripples of a strengthening gust. The mast creaks as a puff fills the much-patched cotton sail. A waft of smells from the hold assaults the captain's nose: heady marjoram, dry cotton, aromatic timber. His ship carries a full cargo from the land of Meluhha far behind him to the east.

CHAPTER OUTLINE

The Origins of Village Life
Mehrgarh
Early Harappan (4000–2600 B.C.)
Mature Harappan: The Indus Civilization (2600–1900 B.C.)
Cities and Artisans
Technology and Trade
Political and Social Organization
Religious Beliefs
The Agricultural Basis
The Decline of the Indus Cities (c. 1900 B.C.)
Farming Villages of the Indus and Ganges (2000–600 B.C.)
Early Historic Cities (600–150 B.C.)

South Asia is defined by vast geographical barriers (see Figure 5.1). To the north stand the Himalayas, a huge mountain chain extending more than 2,000 kilometers (1,200 miles) from the Hindu Kush in the west to Assam in the east. High passes traverse the mountains into Afghanistan, central Asia, and Tibet, but the most accessible routes are the northwestern defiles into western Afghanistan, Iran, and Baluchistan. The Arabian Sea, the Indian Ocean, and the Bay of Bengal surround the Indian subcontinent, while tropical rainforests restrict access to the east. With such geographical frontiers, one might expect South Asia to have become culturally isolated. In fact, as this chapter shows, it has assimilated people and ideas for thousands of years, developing highly complex societies of considerable diversity.

FIGURE 5.1 Map of archaeological sites.



A rim of mountainous terrain rings the north and northwest of South Asia. Within this lie the vast alluvial plains of the Indus River to the west, and the Gangetic basin to the east. The alluvial plains of the Indus River merge on the south into the Thar Desert, 150 meters (500 feet) above the floodplain. The desert, in turn, yields to the central tableland, the Deccan plateau, more fertile and once densely forested. North and east of the central tableland lies the

Gangetic basin, which extends into Bihar, Bengal, and Bangladesh. This vast alluvial corridor enjoys greater rainfall as one moves east and gives way to the dense tropical forests that continue into Southeast Asia. The Deccan plateau lies south of the higher terrain of the central tableland, higher on the west than in the east, which means most rivers flow eastward and the coastal plain is wider on the Bay of Bengal side.

Like the rest of the world, South Asia underwent a major environmental change at the end of the Ice Age, as Himalayan glaciers retreated and sea levels rose. By about 8000 B.C., climatic conditions throughout the subcontinent were more or less the same as they are today, but local environments were very different, for humans had not yet deforested and modified the landscape for their own purposes. For example, the Ganges valley of Uttar Pradesh was once marshy and densely forested, the legendary Mahavana ("great forest") of the early epic poems. It was settled in the Chalcolithic period, but it was not until the first millennium B.C. that Iron Age farmers deforested the area and drained the swamps, changing the character of the landscape fundamentally.

A key feature of the Indian climate that had become firmly established by the end of the last Ice Age was the monsoon. From May to September, monsoon winds blow northeastwards across the Indian Ocean bringing torrential rains first to Sri Lanka, then to peninsular India and the north. A second monsoon from December to March brings more rain to the south. The annual cycle in South Asia is governed by the strong seasonality of the monsoon cycle, which brings life-giving rains or, when occasionally the monsoon fails, drought and famine. Studies of fossils and sediments from lakes and sea beds have shown that the strength of the monsoons has fluctuated over the past several thousand years, bringing periods of wetter climate and occasional periods of drought. Conditions were indeed somewhat wetter than today when agriculture and early states became established in the northwest of the subcontinent during the fourth millennium B.C. The monsoon was a fickle friend, however, and the demise of the subcontinent's earliest civilization, the Indus, may have been caused by the onset of drier conditions a millennium later.

Hemmed in by mountains, oceans, and tropical rainforest, South Asia developed its own distinctive civilizations, marked by their ability to assimilate ideas from outside. The subcontinent itself always had, and still has, a distinctive cultural identity, as well as great local diversity created by

the isolation caused by east-west flowing rivers, different ethnic origins, and linguistic differences. It was not until late into the first millennium B.C. that South Asian empires, like that of the Mauryans in the third century B.C., were able to impose some political and cultural unity.

THE ORIGINS OF VILLAGE LIFE

The first South Asian villages arose in the west, in the hill country west of the Indus River (Table 5.1). The Indus rises in southern Tibet and descends 1,609 kilometers (1,000 miles) through Kashmir before flowing through the semiarid Indus plains. There, deep silt deposits provide soft, easily turned soils, which can be cultivated on a large scale without metal tools. The Indus plains border on Baluchistan and eastern Afghanistan, forming a region with some environmental resemblances to that of the southern Mesopotamian plains and the neighboring Iranian plateau. Like Mesopotamia, this is an area of climatic extremes: searingly hot summers and sometimes very cold winters. Both the higher borderlands and the Indus plains are outside the monsoon belt. Farmers living in this harsh region obtain their water supplies from seasonal rivers and streams that rise in the mountains.

Twelve thousand years ago, both borderland and plains were home to Stone Age hunter-gatherer groups, who continued to flourish for many thousands of years. During the seventh millennium B.C., some of these communities began to change their way of life and develop settled farming villages.

Mehrgarh

Mehrgarh, 200 kilometers (125 miles) west of the Indus River in Baluchistan, was occupied by village farmers before 6000 B.C. The earliest settlement extended over 25 hectares (60 acres) and consisted of rectangular mud-brick houses divided into small rooms (at first two, then four, then six or more) connected by corridors (Figure 5.2). Settlement shifted over time, and as houses were abandoned, graves were dug into them, followed a little later by the development of formal cemeteries of hundred or more burials. The people grew wheat and barley, though not all of the latter was domesticated, and while at first they depended mainly on the hunting of wild animals, by 5000

B.C. they had been supplanted by sheep and goat, and, above all, by locally domesticated zebu cattle.

FIGURE 5.2 Plan of the early village of Mehrgarh in Baluchistan.

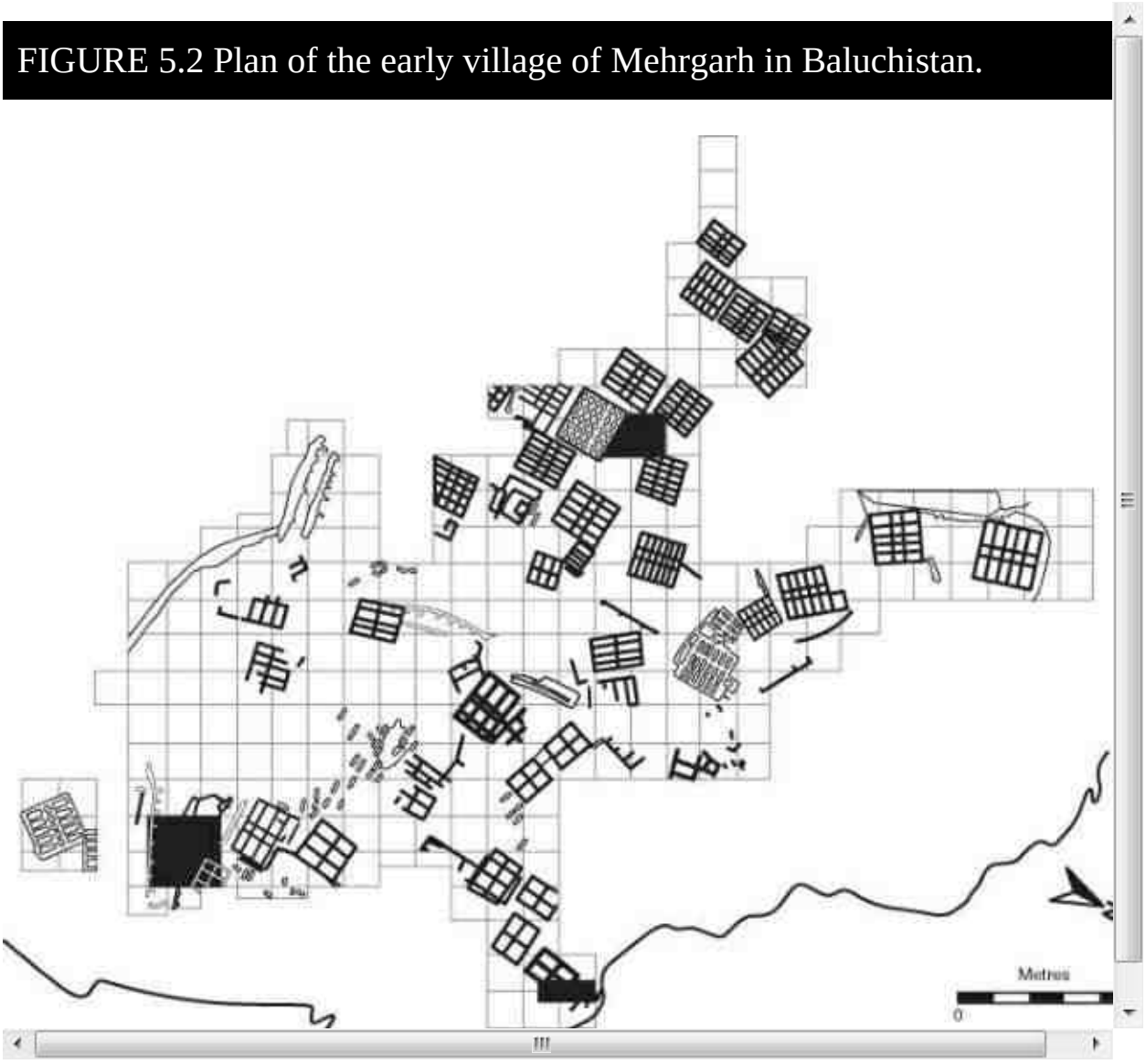
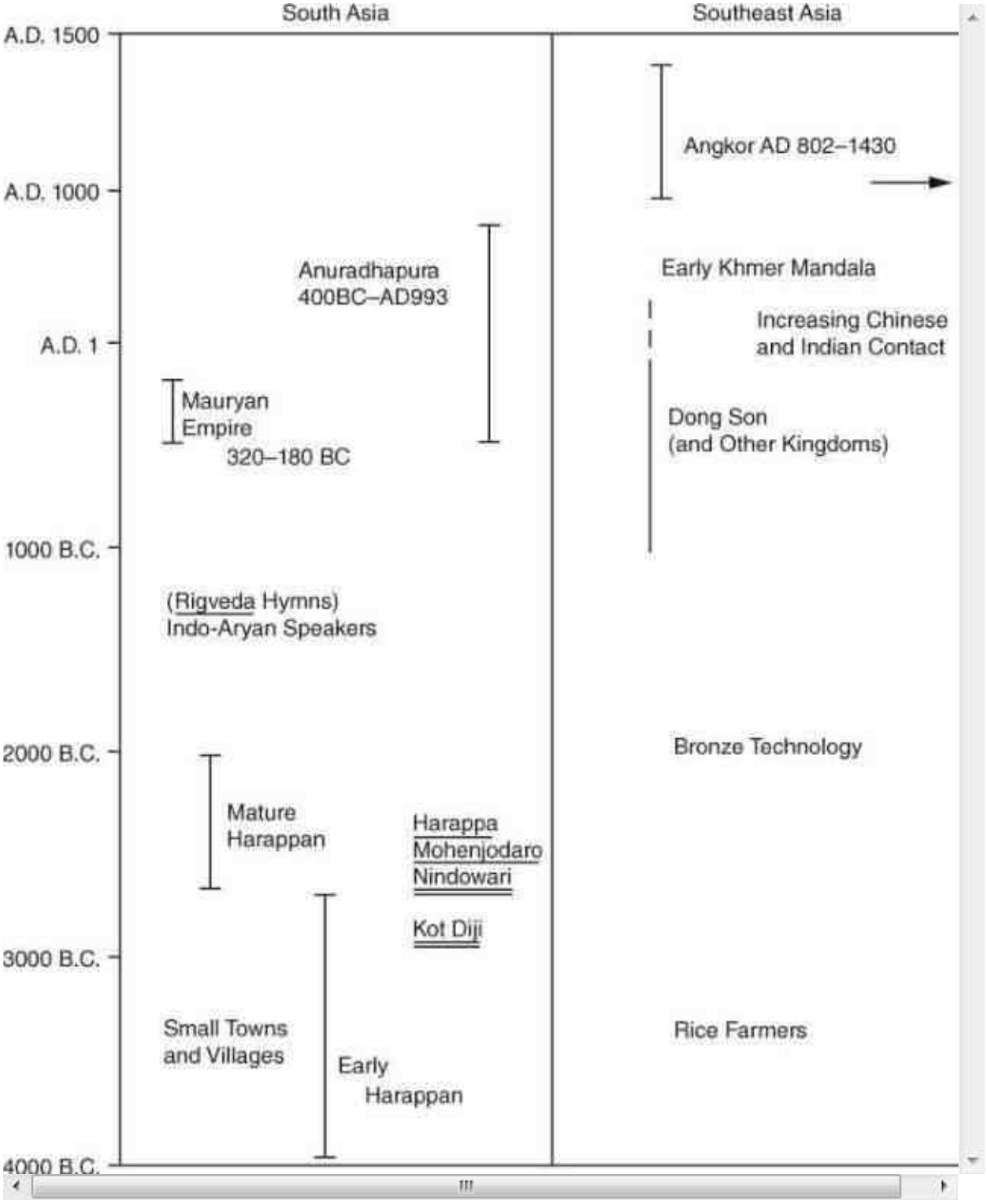


TABLE 5.1 Chronological table of South and Southeast Asian civilizations



Mehrgarh had cultural links with western and central Asia (Turkmenistan). The village stood at the mouth of the Bolan Pass astride a centuries-old trade route from the Indus Valley to the Iranian highlands. The Mehrgarh graves

contain copper artifacts and imported turquoise from Iran and shells from the distant coast of the Arabian Sea, obtained, perhaps, by exporting cotton. The centralized organization of the Mehrgarh settlement is shown by the arrangement of the houses, which from the earliest phase followed a defined orientation and prefigure in that respect the planned Indus settlements of later periods such as Mohenjo-daro.

The origin of the agriculture practiced at Mehrgarh has been the focus of considerable debate. Some have argued that agriculture was introduced to this region from western Asia, and they cite the early cultivation of wheat in support of this view. Others emphasize the reliance on local zebu cattle, which seem to have been domesticated during the life of the settlement. Indigenous local crops such as cotton were also brought into regular cultivation. The difficulty is that early agriculture in South Asia has been much less intensively studied than in the west Asian center of agricultural origins. There are fewer sites and finds with which to build up a complete picture, and to balance the contributions of imported and indigenous elements in the rise of farming villages.

The same problems apply to the rest of the region. Pakistan is not the only center of early agriculture in South Asia, though it still appears to be the earliest. Further east, however, the cultivation of rice on the Ganges plain may have been cultivated from as early the seventh millennium B.C. although it does not appear to have become a staple crop until perhaps the second millennium B.C. Zebu cattle were domesticated on at least two separate occasions, in the Mehrgarh region and in western India, and cattle herding became the mainstay of life on the Deccan plateau of southern India. Even when agriculture took hold, however, hunting and gathering remained a viable lifeway for many South Asians, as it did into modern times.

EARLY HARAPPAN (4000–2600 B.C.)

During the fourth millennium B.C., the alluvial plains of the Indus and its tributaries were densely settled by dozens of small towns and villages, often grouped under the label Early Harappan, the precursor of the Indus civilization. The Indus floods each year between June and September. The farmers planted their wheat and barley as the floods receded and then harvested them the following spring, using the flood-borne silts as a natural fertilizer. Over many centuries, the Indus Valley became an artificial

environment, a maze of irrigation canals with human settlements built above the highest flood level. Settlement expanded in size and the need for protection was soon felt. At Kot Diji, in the centuries 3200–2600 B.C., the inhabitants built substantial defensive walls of mud-brick on stone foundations, still surviving in places to a height of 1.65 meters (5.5 feet). The mud-brick houses of the inhabitants, also on stone foundations, clustered inside the perimeter fortifications. Kot Diji was burned at least twice, perhaps through accident or mishap, although more dramatic reconstructions envisage such destructions as a result of factional disputes between ambitious local leaders competing for agricultural land, water rights, and other resources.

Kot Diji is one of several small fortified centers belonging to the Early Harappan period. Kot Diji covered a mere 2.6 hectares (6.5 acres); another important site, Kalibangan, with a massive mud-brick enclosure wall, was little larger (4 hectares/10 acres), though here for the first time we find the standardized brick sizes that are such a distinctive feature of the Indus civilization that follows. A somewhat larger settlement (26 hectares/65 acres) lay beneath the later Indus civilization city of Harappa. These may represent the beginnings of larger scale, more centralized political control: the transition from proto-state to state.

The formative phases of the Indus civilization are made difficult to understand by centuries of accumulated Indus alluvium; the fertile silts that made the cities possible have also hidden their origins from archaeological inquiry. Many early sites are covered and lost, while at others, the early phases lie deeply buried beneath the water table. Sites such as Kot Diji and Kalibangan provide tantalizing glimpses of the small walled centers that characterized the Early Harappan phase, prior to the development of the Indus cities. These communities may have recognized the huge potential offered by the Indus lowlands and steadily expanded settlement across the area, exploiting the inherent fertility of the alluvial plain. The reward was enormous agricultural productivity, leading rapidly to the formation of cities. From modest fourth millennium centers such as Kot Diji it may hence have been only a small step to major cities of 30,000 to 40,000 inhabitants at Mohenjo-daro and Harappa.

The leaders of these new communal efforts may have been chieftains, priests, and kin leaders, who acted as intermediaries between the people and the gods, although the nature of Indus society and government remain

frustratingly obscure. By 2600 B.C., the most successful leaders of larger settlements presided over hierarchies of cities, towns, and villages.

Another important component in the rise of the Early Harappan communities was their constant interaction with their neighbors to the north and west. Over many centuries, the relationship between lowlands and highlands was fostered by both regular exchange of food and other commodities and by seasonal population movements that brought enormous herds of cattle down from summer mountain pastures in Baluchistan to the lowlands during the harsh winter months. Economic and social development in both regions proceeded along parallel if somewhat diverse tracks, each region dependent on its neighbors.

The transition to urban life in the Indus valley took place around 2600 B.C. In contrast with Egypt and Mesopotamia, where economic, political, and social complexity developed over many centuries, the formation of the major Indus cities may have taken only one or two centuries, and coincided with a significant shift in trading patterns. As we saw in Chapter 3, the Sumerians obtained many exotic objects and basic raw materials from the Iranian plateau before 2600 B.C. Their contacts, if any, with the Indus were over land and very indirect. Judging from written records, they experienced considerable frustration in their transactions with these trade networks. After 2600 B.C., the Sumerians reorganized their trade in luxuries and raw materials. They now acquired many of them by sea, from three foreign states —Dilmun, on the island of Bahrain in the Persian Gulf; Magan, an area on either side of the Persian Gulf (Oman and the Makran coast of Iran and Pakistan); and Meluhha, even further away, where ivory, oils, furniture, gold, and carnelian, among other commodities, could be obtained. The Mesopotamians exchanged these goods for wool, cloth, leather, oils, and other exotic goods. Most experts believe that Meluhha was the Indus Valley region.

A dramatic increase in seaborne trade may well have been the context in which Indus civilization developed, trade that amplified the centuries-old symbiosis between highlands and lowlands to the northwest. With the development of these coastal trading routes between the Persian Gulf and the South Asian peninsula, South Asia became part of what some archaeologists call an early world system, which linked the eastern Mediterranean, parts of Eurasia, and western and southern Asia with loose and ever-changing

economic ties. It is only fair to point out, however, that many scholars believe that overseas trade was less important than sometimes claimed.

MATURE HARAPPAN: THE INDUS CIVILIZATION (2600–1900 B.C.)

Mature Harappan, the fully developed Indus civilization, flourished over a vast area of just under 1,295,000 square kilometers (500,000 square miles), a region considerably larger than modern Pakistan. The Indus and Saraswati valleys were the cultural focus of the Indus civilization, but they were only one part of a much larger, varied civilization whose influences and ties extended over the lowlands of Punjab and Sind, from the highlands of Baluchistan to the deserts of Rajasthan, and from the Himalayan foothills to near Bombay. The age-old relationship between highland Baluchistan and the Indus plains placed the Indus within a larger cultural system, as did their maritime links with the Persian Gulf. A similar kind of relationship may have flourished between the Indus Valley and Gujarat to the south.

The Indus civilization was different from both the Mesopotamian and the Egyptian. Mesopotamia was divided up into a patchwork of two dozen city-states, aligned along the major river branches. Egypt, by contrast, was a single unified state. Mature Harappan political organization must have been different again, with many small- and medium-sized sites, dominated by a few large sites: Mohenjo-daro in Sind and Harappa in the Punjab, Ganweriwala on the Saraswati, and Dholavira (or a similar site) in Gujarat and Saurashtra. These were major regional subdivisions of the Indus civilization, though the political structure that lay behind them remains unknown.

Cities and Artisans

Mohenjo-daro is by far the largest of the Mature Harappan cities at 120 hectares (296 acres), roughly twice the size of Harappa, 70 hectares (173 acres). Widely accepted population estimates, based on densities of modern, somewhat similar settlements, place 40,000 to 80,000 people at these two cities. Ganweriwala, Rakhigarhi, and Dholavira were also major centers, and there were important second-order settlements, among them Kalibangan, Chanhu-daro, and the port community of Lothal.

In each large city, the builders followed an irregular, netlike plan that evolved over many generations. One of Mohenjo-daro's excavators, Mortimer Wheeler, described both Mohenjo-daro and Harappa as giving an impression of "middle-class prosperity with zealous municipal supervision" (1968, p. 78). A high citadel lies at the west end of Mohenjo-daro, protected by great fortifications (see Figure 5.3). It rises 12 meters (40 feet) above the plain, protected by huge flood embankments and a perimeter wall with towers. The public buildings on the summit include a pillared hall almost 27 meters (90 feet) square, perhaps the precinct where rulers appeared in public and gave audiences. There are no spectacular temples or richly adorned shrines. Religious life was centered on a great lustral bath made of bitumen-sealed brickwork and fed by a well (see Figure 5.4). An imposing colonnade surrounded the pool, which was approached by sets of steps at both ends. We cannot be sure of the exact use of the bath nor of the rituals that unfolded there, but lustration was an important part of later Indian religions.

FIGURE 5.3 View across the Citadel at Mohenjo-daro. Larry Burrows/The LIFE Picture Collection/Getty Images.

FIGURE 5.4 The Great Bath on the Citadel at Mohenjo-daro. Ursula Gahwiler/Robert Harding World Imagery/Getty Images.

The rulers of each city looked down on a complex network of at least partially planned streets. The widest thoroughfares at Mohenjo-daro were 9 meters (30 feet) wide, the cross streets only half as wide and unpaved (see Figure 5.5). Hundreds of standardized houses built to at least five basic designs presented a blind brick facade to the streets and alleys they lined. The more spacious dwellings, perhaps those of the nobility and merchants, were laid out around a central courtyard, where guests may have been received, where food was prepared, and where servants probably worked. Stairways and thick ground walls indicate that some houses had one or even three stories. The larger residences had wells, and they also had bathrooms and toilets that may have been joined to an elaborate public drainage system. There were also groups of single-roomed tenements or workshops at both Harappa and Mohenjo-daro where the poorest people lived, many of them presumably laborers, although some scholars have reinterpreted these as the residents of religious ascetics, foreshadowing perhaps the Buddhist monks of later periods.

FIGURE 5.5 A street in Mohenjo-daro. Werner Forman/Universal Images Group/Getty Images.

Recent excavations at Harappa have revealed an urban pattern somewhat different in character from that known at Mohenjo-daro and Kalibangan. The city did not consist simply of a citadel and a lower town, but took the form of a cluster of walled mounds within a loosely built-up area. This contrasts with the single lower town area of grid-plan streets and houses found at Mohenjo-

daro. Dholavira in western India provides yet another model, and this indicates that toward the edge of the Indus area the uniformity that is such a striking feature of the Indus civilization as a whole may have been less pronounced.

Technology and Trade

Within Indus cities and other walled settlements were shops and workshops, where beadmakers, coppersmiths, cotton weavers, and other specialists plied their trades. The potters' workshops were filled with painted pots decorated with animal figures and everyday, plain, wheel-made vessels manufactured in all Indus settlements. There were water jars and cooking bowls, storage pots and drinking vessels. Metalworkers cast simple axes in open molds and manufactured chisels, knives, razors, and other utilitarian artifacts. Only a few expert craftspeople made more elaborate objects, such as small figurines. They would make a wax model of the figurine and encase it in clay, which was fired to melt the wax. Then molten copper or bronze was poured into the mold. This lost-wax method is still used by South Asian metalworkers to this day.

The technologies developed in Indus cities were developed centuries earlier in small villages and transferred to urban settings without change. One of the most developed manufactures was the stamp seal, made from steatite or other types of soft stone (Figure 5.6). Seal workshops have yielded both finished specimens, hardened in a furnace, and blocks of steatite from which the seals were cut as intaglios. For hours, the seal workers would crouch over the tiny squares, expertly cutting representations of animals in profile. Archaeologists at Chanhu-daro, south of Mohenjo-daro, found a complete beadmaker's shop that gave some idea of the labor needed to produce small ornaments. The beadmakers would prepare agate and carnelian bars about 7.6 centimeters (3 inches) long, which were then ground and polished into shorter, perforated cylinders and hung in necklaces. To experience the beadmaking process, the archaeologists took a Mature Harappan stone-tipped drill and some abrasive powder from the same workshop and attempted to drill through one of the bead blanks. It took them twenty minutes to drill a small pit in the end of the bead. At that rate, it would have taken twenty-four hours to drill a single bead.

FIGURE 5.6 Indus civilization steatite seal showing carved image of an antelope with symbols of the undeciphered Indus script above its back. In front of the animal is a ritual offering stand. Size: 2.3 × 2.3 centimeters. National Museum of Pakistan, Karachi, Pakistan/Bridgeman Images.

Some Indus crafts depended on locally available raw materials from within the Indus cultural zone on either side of the heavily populated alluvium strips. Others, involving more exotic materials such as metals or semiprecious stones, revolved around long-distance trade and may have required some degree of centralized control. But the very uniformity of artifact designs and decorative styles over the Indus Valley region is testimony not to imposed cultural uniformity but to a high level of intercommunity trade among settlements, large and small, over extensive

areas of the lowlands. Trade was so important that the Indus authorities developed a standard weight system to reinforce their trading monopolies. Their standard weight was close to one-half of a modern ounce, and Indus stone weights have been found even in settlements along the Persian Gulf. Most stone weights found at Mohenjo-daro were made of chert in cubic form and organized in series; the smallest were found in jewelers' shops, presumably for weighing precious materials. The weights double from 1 to 2 units, then on to 64, and thereafter to 160 and multiples of 160. Later South Asian societies used a unit known as the *karsa* for the same purpose. This weighed the equivalent of 32 *rattis,* seeds of the Gunja creeper, a measure that would fluctuate slightly from year to year. Four *karsas* weighed almost exactly the same as the basic Indus unit of a half-ounce. Similar devices are still used today in South Asian bazaars.

The Nindowari site in Baluchistan was occupied between 2600 and 2200 B.C., the largest of a hierarchy of large and small centers known as the Kulli complex, contemporary with the Mature Harappan civilization in the lowlands. Indus artifacts occur at Nindowari, and there are signs that this and many other Kulli communities were engaged in trade with Iran to the west and the Indus lowlands to the east. The ongoing trading relationships between the highlands and the valley may have been a major factor in the rise of complex societies in both areas. One major commodity was cotton cloth. A South Asian-domesticated crop, cotton was probably first used as fodder for cattle before people discovered that its white, fluffy flower could be woven into cloth both for domestic use in a hot climate and as a hard-wearing fabric ideal for export. Such cloth first appears at the Indus city of Mohenjo-daro in the third millennium B.C.

Further west on the Iranian plateau, the site of Shar-i Sokhta became an important center of trade and manufacturing during the fourth millennium, and by early in the following millennium it had grown to cover over 30 acres. The rise of the Indus cities must hence be seen as one of a series of parallel developments taking place across the Indo-Iranian area during this period.

Still more important was maritime trade with the Persian Gulf and Mesopotamia. This seaborne trade, involving vessels that sailed along the coast from the Persian Gulf to South Asia, grew rapidly and persists to this day. In about 2350 B.C., King Sargon of Agade in southern Mesopotamia boasted that ships from all these locations were moored at his capital. There are even records of villages of Meluhhans near Lagash and elsewhere in

Mesopotamia. The maritime trade, recorded with clay seals and involving not casual exchange but specialized merchants, increased the volume of Sumerian exports and imports dramatically. One shipment of 5,900 kilograms (13,000 pounds) of copper is recorded. These trade connections are documented by archaeological finds. Sealstones have been found in Mesopotamia, and skillfully crafted carnelian beads, imported from the Indus or made by Indus craftsmen settled in Mesopotamia, occur in the royal graves at major Mesopotamian cities, such as Kish and Ur.

Other trade routes ran overland to link the Indus cities with Iranian entrepots such as Shar-i Sokhta, which, in turn, had connections westward to Mesopotamia. Regular caravan routes linked highlands and lowlands. They even maintained small colonies in Afghanistan, near strategic sources of raw materials. There was extensive trade in gold, copper, and carnelian with central and southern India. But the burgeoning maritime trade routes of the Indian Ocean were of far greater importance. Vessels hugging the coast linked the Indus with the Persian Gulf, where Arabian and African products were to be obtained. The ships that plied these routes never ventured far from shore, but they forged economic ties that were to wax and wane as the fortunes of individual civilizations and societies ebbed and flowed. Centuries later, these same maritime highways and the discovery of the monsoon winds of the open sea brought China, Southeast Asia, South and West Asia, and the Mediterranean world into a vast, ever-changing web of interconnections.

Political and Social Organization

Indus political organization remains a mystery. We do not know whether the Indus Valley was ruled by a series of city-states or whether great rulers presided over a territorial state that covered many thousands of square miles. The Indus script is still undeciphered, which makes it impossible to reconstruct historical events or the ebb and flow of political power from one city to another.

We also know little of Indus social organization and religious beliefs. Those who ruled Harappa and Mohenjo-daro remain anonymous, for they never commemorated their deeds on grandiose palace walls or in rich tombs and left almost no portraits. One exception is a small limestone figure from Mohenjo-daro that depicts a thick-lipped, bearded man staring at the world through slitted eyes. He seems to be withdrawn in meditation, perhaps

detached from worldly affairs (see Figure 5.7). The man wears an embroidered robe that was once inlaid with metal. The only clue to his status is that one shoulder is uncovered, a sign of reverence during the Buddha's lifetime more than 1,500 years later. So far, archaeology reveals leadership by rulers, perhaps merchants, ritual specialists, or people who controlled key resources or large areas of land. They seem to have led unostentatious lives marked by a complete lack of priestly pomp or lavish public display.

FIGURE 5.7 Limestone sculpture of a bearded man, perhaps a priest or ruler, from Mohenjo-daro. Height: 19 centimeters (7.4 inches). The rarity and small size of such portrayals underline how unlike ancient Egypt or Mesopotamia, Indus political ideology seems to have discouraged the portrayal of powerful individuals.

One reason we know so little about Indus leaders is because their script is still undeciphered. Almost 400 different pictographic symbols have been identified from seals and other short inscriptions, but linguists do not even agree on the language in the script, let alone on the ultimate identity of the Indus population. Some success has been achieved with computer-aided decipherment techniques, which have established the script as logosyllabic, that is, a mixture of sounds and concepts just like Egyptian hieroglyphs, perhaps an early form of Dravidian. We also know that it was read from right to left. The bulk of Indus inscriptions are dated to the Mature Harappan

period, c. 2600–1900 B.C. Excavations at Harappa itself have, however, recovered examples of the script, inscribed on pottery sherds, from earlier layers dated to 2800–2600 B.C. This makes it less likely that the adoption of the script was influenced by contacts with Mesopotamia, since such contacts are not well attested before the middle of the third millennium B.C. There are indeed claims for even earlier examples of Indus script dating back to 3500 B.C.

Some authorities believe that the seals served both as religious symbols and as tags or labels for bundles of merchandise sent to distant Sumer. Most everyday writing will have been on perishable materials such as ola leaves, traditionally used in South Asia until recent times. Soaked, pounded, and smoothed, these provide a smooth surface into which symbols can be scratched, then made more visible by rubbing across the surface with an ink-soaked cloth. The restricted nature of the surviving Indus inscriptions makes it very difficult to be sure what range of information the script was used to record: whether it was comparable, for example, to the Mesopotamian cuneiform, with important administrative and economic functions, or was employed for a more restricted range of purposes such as ritual or ownership.

Everything points to a shared set of norms and values, with the focus on agriculture and trade. Irrigation produced large surpluses of barley and wheat close to the cities, but many villagers away from the valley and river still practiced dry agriculture. Cotton and dates were also important crops in a society where the state may have controlled many acres of land and where every farmer turned over much of the household crop to their local government. The entire agricultural enterprise was a much larger version of the communal village farming that originally had made colonization of the Indus Valley possible, but one that supported a hierarchical, ranked society.

This reconstruction has, however, been challenged by several scholars, who argue that the Indus cities did not form city-states or focal points within a larger territorial state. They argue that the formation of the Mature Harappan system was a relatively rapid process taking place around 2600 B.C., preceded by severe disruption and the burning of many Early Indus settlements such as Kot Diji. Warfare may have been the cause. What followed, however, was not the result of the military unification of previously independent cities, but another kind of social formation altogether. For a start, there are no structures that can clearly be identified as temples or palaces. Both Harappa and Mohenjo-daro housed a comfortable and

unpretentious middle class of merchants and officials who lived in standardized brick houses along the cities' narrow streets. The absence of elite dwellings is coupled with an absence of monumental sculpture and elite graves. We have seen how early rulers in Mesopotamia and Egypt understood the importance of royal propaganda—in terms of major buildings and statues—to support their status and their separation from the rest of society. Egyptian royal graves and the rich elite graves from Ur in Mesopotamia provide further indications of social hierarchy and social distance. There is no comparable evidence from the Indus civilization, and this has led scholars to question whether indeed it was a state at all.

Indus cemeteries have yet to be adequately investigated but do provide important insights into Indus society. One of the best known is at Harappa itself, where a cemetery of 145 graves lay at the foot of the two main city mounds. A recent analysis of the strontium isotopes in the teeth of forty of these individuals (which relates to where they had lived during childhood) indicated that almost half had grown up outside the local area and must have been immigrants to the city. This provides evocative illustration of the social flux which underlay the formation of the earliest cities, with people coming together from disparate regions to form new communities.

Some have argued that Indus "cities" were not truly urban, but merely religious centers at which people from the surrounding regions congregated for certain ceremonies. This view is hard to square with the evidence of streets and houses from so many of these sites; it is difficult to argue with the notion that they were indeed cities. Furthermore, though writing does not in itself indicate the existence of a state, the standardization of weights and measures, the standardization of brick sizes, and the similarities in material culture throughout the Indus realm all argue that there was a strong common bond that held these settlements together. It may indeed prove to be the case that Indus society was politically decentralized and lacked the kings and rulers of other early urban societies. It is also quite possible that the rulers of the Indus polity or polities used different devices to promote their authority, which did not depend on monumental display or richly furnished graves. The debate illustrates the difficulty of identifying the state in circumstances where the written evidence—the script—has yet to be deciphered, or where there is no later historical tradition. It also reminds us that early states were not identical, and that there was no tightly defined blueprint to which they must all have adhered.

Religious Beliefs

Like the Sumerians, Indus societies lived in an environment that they modified for their own protection, one in which the annual floods meant a renewal of life and food for the coming year. We can speculate that the primordial roots of South Asian religion may have been age-old fertility cults that served the same function as the goddess Inanna among the Sumerians and mother deities in many other early civilizations. Such cults provided an assurance that life would continue, that the endless cycle of planting and harvest would be renewed. The only clues we have to the origins of Indus religion come from minute seal impressions and small clay figurines from Indus villages and cities that depict a female deity with conspicuous breasts and sexual organs. We do not know her name, but she probably embodied earth and life-giving nature for the Indus people.

A seal from Mohenjo-daro bears a three-headed figure who sits in the yogic posture and wears a horned headdress. He is surrounded by a tiger, an elephant, a rhinoceros, a water buffalo, and a deer. Some Indus experts think that the seal represents a forerunner of the great Hindu god Shiva in his role as Lord of the Beasts. Many Indus seals depict cattle, which may be symbols of Shiva, who was worshiped in several forms. If the evidence of the figurines and seals is to be believed, the symbolism of early Indus religion bears remarkable similarities to that of modern Hinduism. Many other elements of more modern South Asian religion may have flourished in Indus society, among them the use of fire altars in homes, worship with fruit and flowers, meditation, and well-developed astronomical knowledge. The symbolic importance of water and bathing, exemplified in the Great Bath at Mohenjo-daro, is also a prominent feature of later Hindu practice. These similarities highlight the deep continuity of South Asian society from the earliest moments of Indus civilization and even further in the past.

The Agricultural Basis

Fundamental to all of these developments was the river system. The Indus, like the Nile, the Tigris, and the Euphrates, is essentially a river flowing through the desert, and without the water and silt that it carries, settlement of the region would be extremely limited. The major difference between the Indus and the Nile, however, is the much greater extent of the Indus River

system, with its numerous tributaries and channels. Thus, the Indus cities do not lie along a single river channel but along a series of stream courses. Furthermore, a second major river once flowed across the eastern edge of the plain. This, the “lost” Saraswati, has become extinct during the intervening millennia. Thus, the Indus cities depended on two major river systems and their annual flood regime. The impact of the major floods is graphically revealed by the depth of flood deposits at sites such as Mohenjo-daro, a major Indus city with a population estimated at perhaps 35,000. The high raised podium of the “citadel” at this and other sites, and the substantial perimeter wall traced around parts of the Lower City, may have been intended as a protection against these floods as much as against hostile neighbors. It may equally have been symbolic of the new social and cultural order of the Indus cities.

The principal crops were wheat and barley, sown in autumn on the alluvial plains as the flood waters receded. They were supplemented in certain areas by summer-sown crops grown on higher-lying and drier land to take advantage of the summer monsoon rains. Archaeologists working at two village settlements close to Rakhigarhi, the easternmost of the major Harappan cities, have discovered remains of rice, millets, and three tropical pulses that must have been grown as summer crops. These have been dated to the period 2600–2400 B.C., and the produce of outlying villages such as these must have had a key role in supporting the urban centers of this region. The same was not true in the west, where major Indus centers such as Mohenjo-daro have no evidence of summer crops and may instead have depended on centralized storage of winter-grown wheat and barley. In the east, where two crops per year could be grown, centralized storage would have been less important, but it is likely that throughout the Indus zone the trade and exchange of staple crops from different ecological zones was an important mechanism in providing a secure food supply. The regional system allowed the effects of occasional low floods and famines to have been buffered by the movement of crops from less-affected areas. Its existence is shown in the adoption of standardized brick sizes and standardized weights and measures throughout the Indus area, and by the exchange of raw materials and manufactures. Once these regional integration mechanisms broke down, around 1900 B.C., the major Indus cities were abandoned.

The Decline of the Indus Cities (c. 1900 B.C.)

The Indus civilization reached its peak around 2300 B.C. Four centuries later, Harappa and Mohenjo-daro were in decline and were soon abandoned. Their urban populations dispersed into smaller settlements (Figure 5.8) over an enormous area as the volume of long-distance trade declined dramatically, except perhaps in metals. The reasons for this change are still little understood, although theories abound.

One of the earliest explanations for this collapse was the invocation of invading Aryans, as set out in the *Rigveda*, a Hindu sacred text that some claimed to be a memory of the battles fought between the newcomers and the indigenous Indus society. British archaeologist Mortimer Wheeler found a few skeletons in the upper levels of Mohenjo-daro and speculated that the Indus cities were overthrown by foreign, Indo-Aryan-speaking invaders, but his evidence is simply too inadequate for such an explanation. Yet the chronology of the Aryan invasions (if indeed they ever occurred) is far from clear, and the *Rigveda* was codified only in around 1000 B.C., a thousand years after the abandonment of Mohenjo-daro. Recent, though controversial, support for migration into India at this period has come from studies of genetics, which suggest substantial mixing of populations some four thousand years ago. The scale and character of the process has still to be confirmed by archaeology.

A suspension of the all-important trade with the Persian Gulf is another factor that could account for the demise of the Indus cities. Contacts between Mesopotamia and the Indus seem to have become considerably less frequent during the early centuries of the second millennium B.C.

Other theories invoke environmental change. Robert Raikes and George Dales argued that the demise of the Indus cities was caused by tectonic movements that raised a natural dam on the source of the Indus River in the area of Sehwan. The waters of the Indus, no longer able to reach the sea, spread out behind this natural dam to create a vast lake that flooded the area around Mohenjo-daro and certain other major cities, causing their abandonment. An alternative theory seeks the cause for the demise in the drying-up of the Saraswati and Drishadvati rivers, important foci of Indus period settlement, once again owing to tectonic change that caused the waters flowing from the Himalayas to be progressively caught by streams and rivers flowing eastward into the Ganges floodplain. Yet a third environmental

theory proposes that climatic change in the form of greater aridity was to blame. Some of these hypotheses are more plausible than others: The damming of the Indus is not well supported by the evidence, but the drying-up of the Saraswati is now generally accepted.

Especially convincing is recent evidence from sediments from the bottom of the Tso Moriri lake in the western Himalayas. These environmental records indicate warm and wet conditions from 2550 to 2400 B.C., coinciding with the apogee of Harappan urban development. Thereafter, however, conditions deteriorated, with the weakening of the summer monsoon ushering in a long cold and arid phase that persisted until 1500 B.C. The weakening of the summer monsoon may have deprived the Indus Valley cities of vital water sources and critically undermined Indus agriculture.

Paradoxically, not all areas were losers in this cooler and drier climate. The post-Indus phase does indeed a substantial *increase* in the number of settlements on the margins of the Indus zone. The cities disappear, but across several territories of the former Indus cvilization, populations continued to flourish and may even have grown in number. This continuity of prosperous agricultural settlement was contrasted with the pattern in drier areas of Sindh, Cholistan, and Baluchistan, where there is a severe decline in site numbers. Thus, changes in the natural environment may have struck the major blow, but the way in which this affected the entire area of the Indus civilization owed much to sociocultural factors.

The Indus civilization farmers may indeed have been partly the victims of their own success. A complex multiplier effect seems to have occurred, as rapidly rising village populations became linked to higher crop yields, leading to drastic consequences for the environment. As village populations rose, so did pressure on the land. The farmers cleared and burned off more and more riverside forest and grazed ever-larger herds of cattle on watershed meadows. Pastoral groups grazed their herds seasonally in the empty lands between agricultural communities; they may have played an important role in internal trade networks, for which their animals served as beasts of burden. Acres of forest were burned to bake bricks for the houses of growing villages and expanding towns. Mile after mile of the plains were denuded of their natural vegetation, with drastic consequences for erosion control and the floodplain environment. Deprived of natural controls, the rising floodwaters of summer swept over the plains, carrying everything with them. Thus, floods in some regions, and droughts in others, may all have contributed to the Indus

demise. The cemeteries at Harappa once again provide a snapshot of the social processes involved. Immigration and crowding may have brought high levels of infectious disease, especially leprosy and tuberculosis. There were also growing levels of interpersonal violence, as orderly city life broke down. Faced with these challenges, the urban populations may have moved away to make new lives elsewhere.

FARMING VILLAGES OF THE INDUS AND GANGES (2000–600 B.C.)

No cities developed in South Asia east of the Indus region until long after the Indus civilization went into decline. As the highly developed socioeconomic system of the Indus broke down, so urban life vanished, to emerge once again far to the east in the Ganges valley many centuries later. At the same time, many well-developed, but still little-known, regional farming cultures flourished both inside the Indus region and beyond. The second millennium B.C. was a period of vital importance in South Asian history. By 1500 B.C., rice cultivation had taken hold in the Ganges basin, opening up a new environment for farming where conditions were unsuitable for wheat and barley cultivation. At the same time, millets, some of them of African origin, became important in the Gujarat region, and were especially suited to the more humid parts of southern India. The effect of these new crops may have been to widen the area where agriculture was practiced, thereby reducing the environmental circumscription that may have been one of the bases of Indus civilization.

During the second millennium B.C., flourishing village settlements existed through much of South Asia, from the Indus plains and foothills in the west to the Ganges zone in the east and into the Deccan Plateau to the south. Historically, this is the period when, according to tradition, Indo-Aryan-speaking people spread into the subcontinent, an event described in the *Samhita*, a compilation of the hymns *(Vedas)* of the *Rigveda.* Many of the hymns were composed centuries earlier, then passed from generation to generation by word of mouth.

The Indo-Iranian languages are one of the branches of the vast Indo-European family of languages, which originated on the Eurasian steppes. The development and spread of Indo-European tongues is one of the great controversies of both linguistics and archaeology. Archaeologists have tried

in vain to associate different prehistoric cultures with the arrival of Indo-European languages, but there is still no consensus. Much of the controversy centers on Europe, but Iran and South Asia were also deeply affected by these changes. Many scholars argue that Indo-European-speaking peoples spread across the Iranian plateau into South Asia during the second millennium B.C., where they intermarried with indigenous groups. Thus were born the Indo-Aryan languages spoken throughout South Asia today. Recent genetic studies are consistent with such a model but do not indicate how and exactly when such a movement may have occurred. Another school of thought believes indeed there was no invasion that Indo-Aryan developed indigenously in South Asia and was present there from a much earlier period. They point to features of the Indus civilization that appear to prefigure later Indian features, such as the yoga position of a figure represented on Indus seals who appears to adopt the pose of the Hindu god Shiva.

Whatever the historical reality behind the *Rigveda,* archaeology shows clearly that by the early first millennium B.C., agricultural villages were proliferating on the Ganges plain, building on a pattern of settlement that had begun here during the fourth millennium B.C. Iron tools accelerated rice cultivation on the Ganges plain. What had previously been numerous small tribal territories had by 600 B.C. coalesced or been incorporated into sixteen major kingdoms or republics concentrated around the urban centers of the Ganges plain. By 550 B.C., at least five of the Ganges cities are known to have had massive stone or mud-brick fortifications. The mud-brick fortifications of Ujjain measured 75 meters (246 feet) wide at the base, were 14 meters (46 feet) high, and extended over 5 kilometers (3 miles). By the third century, some of the cities were very large indeed. Ahicchatra, for example, covered an area of nearly 180 hectares (450 acres). Pataliputra, the capital of Magadha, may have been even bigger, and it eventually became the capital of the Mauryan empire.

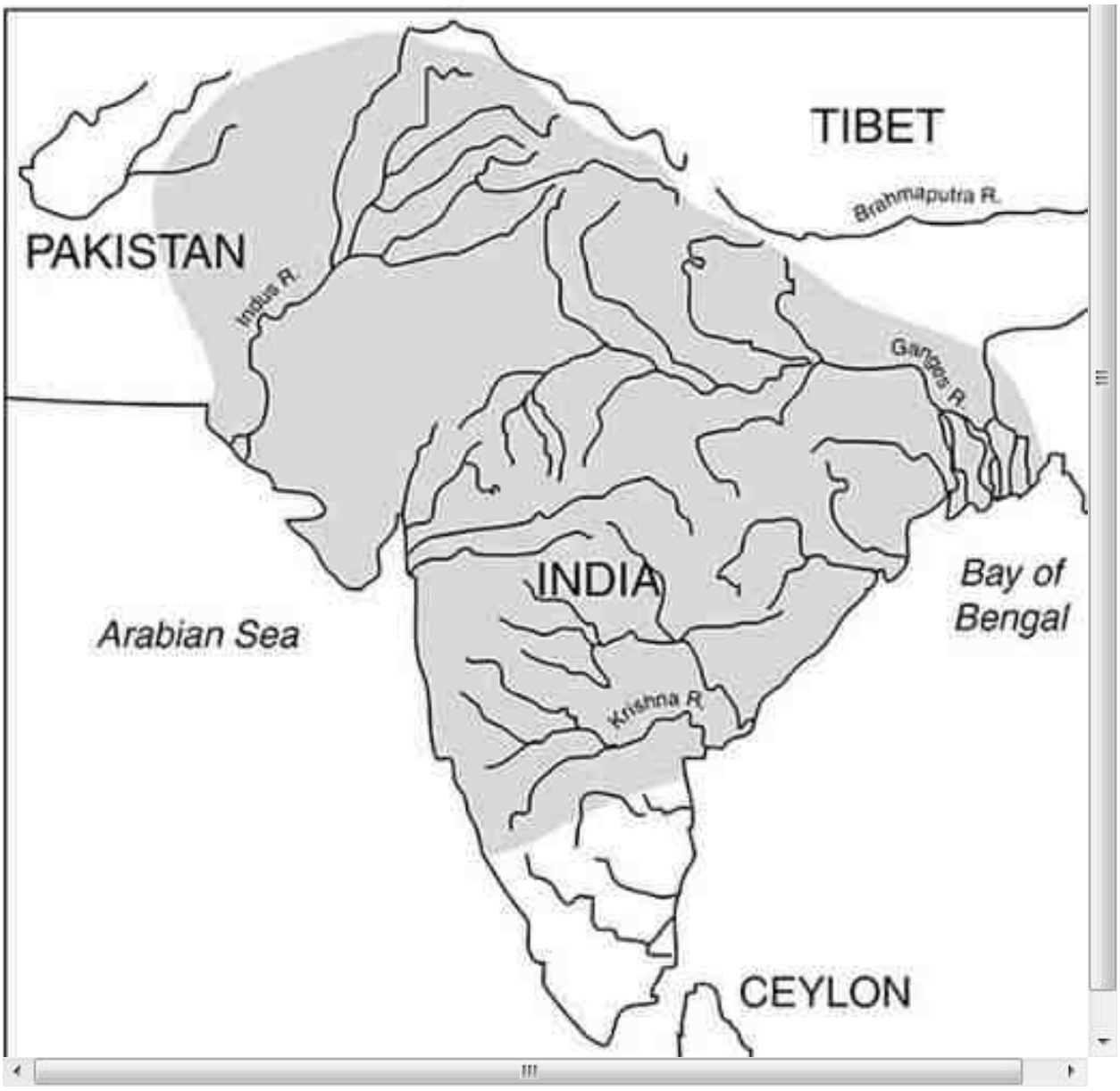
EARLY HISTORIC CITIES (600–150 B.C.)

City life in the Ganges valley and in the Gandharan area of northern Pakistan marked the beginning of the classic period of South Asian civilization. The new cities became economic powerhouses and centers of great intellectual and religious ferment. Brahmanism was the dominant religion during the early first millennium, an early form of Hinduism that placed great emphasis

on ritual and sacrifice. The Brahmin class exercised priestly authority over all aspects of life through their responsibility for the transmission of the sacred tradition and the performance of sacrificial rituals. But revolutionary philosophers of the sixth century B.C. like Buddha and Makhali Gosala challenged Brahmanism with revolutionary doctrines that militated against sacrifice. Buddhism, with its teachings of personal spiritual development, spread rapidly, becoming the dominant religion throughout the subcontinent within five centuries.

Meanwhile, outside powers eyed the fabled riches of the subcontinent. King Darius of Persia invaded the northwest in 516 B.C. and incorporated the Indus Valley into the Persian Empire, although leaving little evidence. Two centuries later, Alexander the Great ventured to the Indus River and brought Hellenistic culture to the area. In the northeast, the leaders of the Ganges kingdoms had fought constantly until the sixth century B.C., when the kingdom of Magadha began to grow at the expense of its neighbors. The great ruler Chandragupta Maurya of Magadha benefited from the power vacuum following Alexander the Great's conquests and carved out a huge empire (the Mauryan empire), which extended from Nepal and the northwest deep into the Deccan (see Figure 5.8). His grandson Ashoka presided over the empire at its height, between 269 and 232 B.C., seeking to unify its diverse people by a well-defined moral and ethical code based on principles similar to those adopted by the Buddhist order, which he promulgated with inscriptions throughout the empire. His capital at Pataliputra (Patna) in Magadha extended nearly 14 kilometers (9 miles) along the Ganges. Great Buddhist monuments like the *stupas* (solid mounds of clay, brick, or stone built over relics) at Sarnath and Sanchi and temples at Lumbini and Bairat were built at this time. Recent excavations at Lumbini in Nepal have discovered an early shrine buried beneath the later Ashokan temple, which may have been associated with veneration of Lumbini as the birthplace of the Buddha.

FIGURE 5.8 Map of the extent of the Mauryan empire.



Magadha and other northern cities in Ashoka's empire prospered greatly from overland trade routes that led northwest to charsada, Taxila, and other frontier cities. Far to the east, the port of Tamluk at the mouth of the Ganges gave access to new and expanding marine trade routes to Southeast Asia. And as the Mauryan empire came to an end in 185 B.C., the monsoon winds of the Indian Ocean linked the South Asian coast with the Roman world and its insatiable demands for ivory, spices, and fine textiles from South Asian markets. Roman coins have come from ancient ports and cities in the south, as well as from Arikamedu, a trading station on the east coast of the Deccan, and amphorae and Arretine vessels from Pattanam in Kerala on the west

coast. On Sri Lanka, the city of Anuradhapura became both a political center and a place of Buddhist pilgrimage during the last few centuries B.C., and here too there were important trade links with the Roman West. [See Box 5.1: Anuradhapura.]

Box 5.1 Anuradhapura

Buddhism arrived in Sri Lanka in the third century B.C., when according to tradition the son of the Mauryan emperor Ashoka introduced the new religion to the island. Excavation at the city site of Anuradhapura has shown how the walled citadel at the heart of the urban complex grew from around 25 hectares (60 acres) in the fourth century B.C. to 100 hectares (25 acres) in the second century A.D. Around the royal citadel, three major Buddhist monasteries were established—Mahavira, Abhayagiri, and Jetavana—furnished with massive *stupas* (conical brick monuments containing relics, and topped by a spire) the largest of them over 150 meters in height (Figure 5.9). The scale of these structures underlines the importance of Buddhism in the Anuradhapura kingdom, in religious, political, and economic terms. The monasteries indeed form a Sacred City, extending over some 25 square kilometers (10 square miles), outside and around the royal citadel. Beyond that again was the sprawling, dispersed, low-intensity settlement where the ordinary people of Anuradhapura resided, marked today by scatters of pottery showing the locations of individual villages. The same pattern of low-intensity urbanism around a powerful religious core is found a millennium later at Angkor in Cambodia. As at Angkor, an all-important feature was control of water resources in this dry environment of seasonal monsoon rains. Modest water tanks were built at Anuradhapura from the fourth or third century B.C., covering 100 or 200 hectares (250 to 500 acres), but in the third century A.D. the first of a series of massive tanks was built, the Nuvaraveva (1,214 hectares/3,000 acres) followed in the fourth century A.D. by the Nachchaduva (over 800 hectares/2,000 acres) and the immense Kalaveva (1,810 hectares/4,500 acres). These tanks may have had sacred significance but were also vital for the irrigation that enabled the farming that supported Anuradhapura’s population. Religion and water control were hence essential to the success of Anuradhapura. The

third ingredient was trade, and long-distance connections in luxury goods evidence by finds of carnelian from western India, lapis lazuli from Afghanistan, and pottery and glass from the Roman world and Sassanian Persia.

FIGURE 5.9 The Ruvanveliseya stupa at Anuradhapura, founded in the mid-second century B.C. and measuring over 100 meters (330 feet) in height. A chamber at its core held sacred relics. The size of the major stupas at Anuradhapura emphasizes the key role of Buddhist monasteries in upholding the power of the state and managing important sectors of the rural economy. Chris Scarre.

By Roman times, South Asia was part of a vast trading network that linked the Mediterranean world to all parts of the Indian Ocean and, indirectly, to new sources of raw materials many sea miles to the east. New South Asian connections were a significant factor in the development of indigenous civilizations in Southeast Asia (described in Chapter 13).

Summary

Food production and animal domestication began in the northwest during the seventh millennium B.C. based at least in part on local plant and animal species. Many of these communities maintained close trading and herding relationships with villages in highland Baluchistan. A hierarchy of larger communities developed in the Indus Valley during the fourth millennium B.C., culminating in the mature Indus Civilization of c. 2600– 1900 B.C. The Indus civilization was based on a number of large cities, including Harappa and Mohenjo-daro, which produced large agricultural surpluses and acted as trading and manufacturing centers for their hinterlands. Their prosperity came from the intensive cultivation of wheat, barley, and cotton, combined with maritime trade with Mesopotamia. We know little of Indus social organization or of the society's religious beliefs, which may in part have foreshadowed some of the practices of Hinduism. The Indus civilization collapsed just after 2000 B.C. Harappa and Mohenjo-daro were abandoned, and their inhabitants were dispersed into village communities. The ensuing centuries saw the center of gravity shift east to the Ganges valley with the growth of rice cultivation. By 600 B.C., sixteen kingdoms flourished across the northern half of South Asia, eventually united into the Mauryan empire in the fourth century B.C. Buddhism became the dominant religion of the empire, replacing earlier Brahmanic teachings of ritual and sacrifice. These developments took hold as South Asia became part of the enormous trade network that developed out of the discovery of the monsoon winds of the Indian Ocean.

CHAPTER 6

The First Chinese Civilizations

FIGURE 6.0 Bronze head from a ritual pit at Sanxingdui, China, c. 1200–1000 B.C. China Photos/Getty Images.

The bronze caster wiped the sweat from his brow with his apron, then took up the long tongs and drew the heavy crucible, full of molten bronze, from the furnace. With careful concentration he swung the crucible to one side until it was directly above the strange object of fired clay, with its funnel-like opening in the top. This was a piece mold, an intricate assemblage of pieces of fired clay, bearing the shapes and decoration of a ritual vessel on their inner face. Gently tipping the crucible, the worker poured the molten bronze slowly and steadily into the opening. There was a hiss as hot air issued from tiny holes in the sides of the clay mold, but silence returned as the bronze settled and began to cool. It would take several hours before the mold could be taken apart and removed. Then a little more work would be needed to finish the vessel, cleaning up the elaborate animal-mask decoration with a

chisel, polishing the surface, and cutting away any excess metal that had formed between the joints of the mold. But he felt well pleased with the work. It would no doubt earn a handsome reward from the Shang nobleman who had ordered it. He would use it in banquets, invoking the ancestors, and pass it on to his heirs, until at last, one day, it would be placed with one of them in the grave, to serve them in the afterlife as it had in this.

CHAPTER OUTLINE

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- *The South: Tianluoshan and Hemudu*

Liangzhu (c. 3300–2300 B.C.)
Ritual and Pilgrimage: The Niuheliang Temple (c. 3500 B.C.)
Elite Traditions in the Longshan Phase (2800–1800 B.C.)
- *Pottery and Ritual*
- *Walls and Warfare*

Shimao and the Northern Zone (c. 2300–1800 B.C.)
Three Dynasties: Xia, Shang, and Zhou (c. 1800–1046 B.C.)
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- *Shang Cities*
- *Erlitou*
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- *Anyang*
- *Royal Tombs at Anyang*
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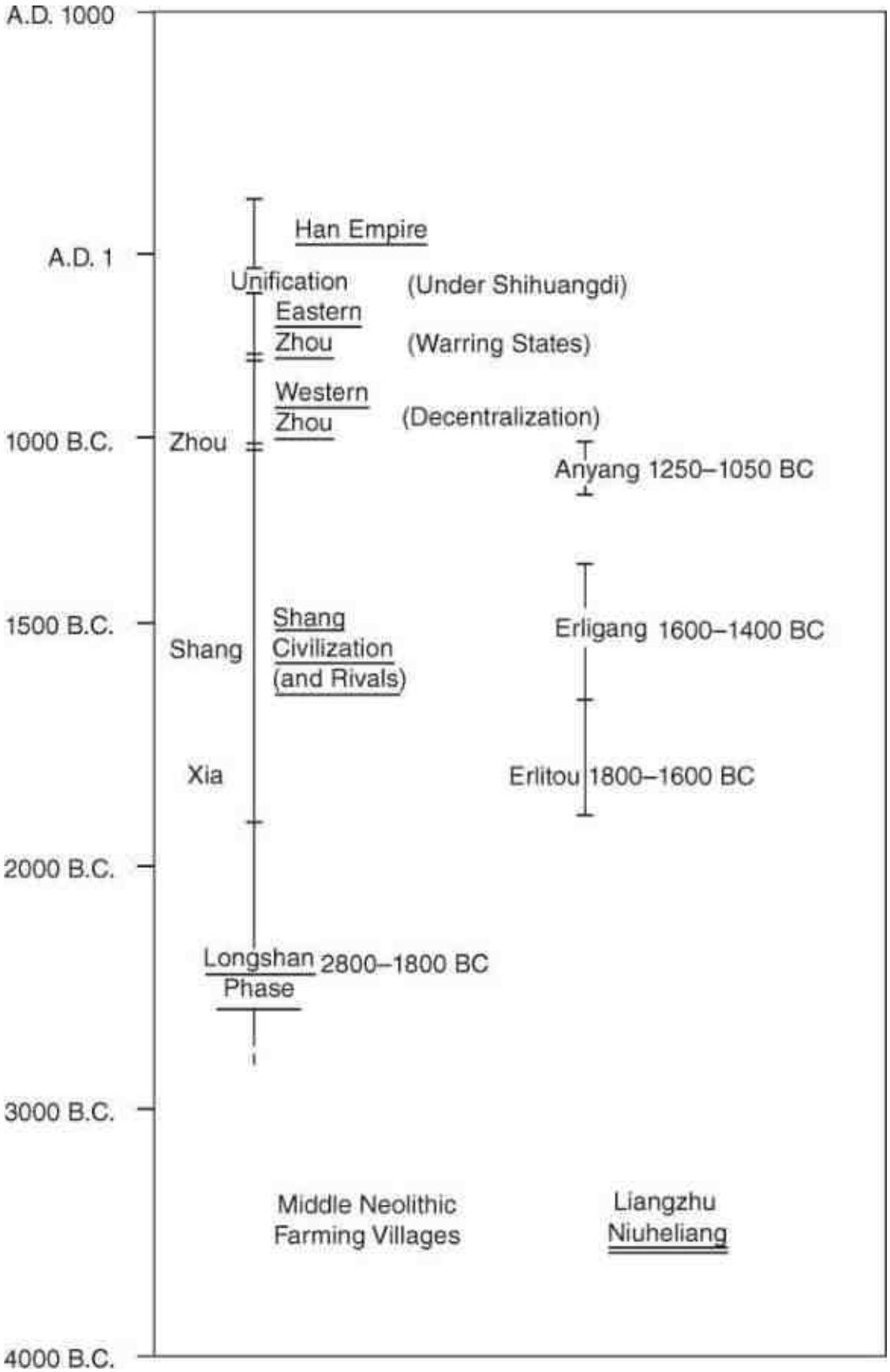
The Western Zhou (1046–771 B.C.)

Bronze ritual vessels are some of the most famous products of the first Chinese civilization. It takes its name from the Shang dynasty, which ruled the central plain of northern China in the second millennium B.C. The ritual vessels were the mark and preserve of an elite group, those who governed the Shang and neighboring states. They relied on the ancestors to guide and protect them, seeking advice through divination and placating them by ritual banquets served in these sumptuous bronze vessels.

Our understanding of early civilization in China has been greatly modified in recent years by the realization that the Shang culture of the central plain was not the only center of bronze working and state formation at this period. Important discoveries in Mongolia, the Yangzi valley, and southwestern China (Sichuan province) have shown the existence of other traditions, contemporary with the Shang and combining Shang features alongside local material to create their own distinctive, elite cultures. Thus, early civilization in China was not a single-center phenomenon but a pattern of multiple, interconnected core areas of varying size and importance. Shang elite culture was simply the most prevalent of these and the Shang state the best documented from historical records.

In this chapter we consider what may be learned of Bronze Age civilizations in China from the evidence of archaeology and written records, not least among the latter being the oracle bone inscriptions left by the Shang rulers at Anyang. First, however, we discuss the origin and development of the first Chinese civilization, beginning with the farming communities of the Neolithic period. Chinese society in historical times was characterized by the search for order and harmony and a strong respect for tradition. What is striking is that Chinese civilization accumulated its traditional features gradually over many centuries: from the basic cultigens, rice and millet, to drinking vessels, lacquer and jade, palaces and writing, and a rigidly hierarchical society (see Table 6.1).

TABLE 6.1 Chronological table of Chinese civilizations


A.D. 1000
A.D. 1
1000 B.C.
1500 B.C.
2000 B.C.
3000 B.C.
4000 B.C.
Han Empire
Unification
(Under Shihuangdi)
Eastern Zhou
(Warring States)
Western Zhou
(Decentralization)
Zhou
Anyang 1250–1050 BC
Shang
Shang Civilization (and Rivals)
Erligang 1600–1400 BC
Xia
Erlitou 1800–1600 BC
Longshan Phase 2800–1800 BC
Middle Neolithic Farming Villages
Liangzhu Niuheliang

SETTING

China encompasses an enormous area of Asia, from the very high mountains and plateaux of the Hindu Kush, Tibet, and the Himalayas in the far west; to the Pacific coast and low-lying, hot subtropical regions of the south; and to the great prairie-steppes that separate the boreal forests of Siberia from China's cultivated lands.

The great central plain of China in the north covers more than 300,000 square kilometers (115,000 square miles), bounded by the Huanghe (Yellow River) in the north and the Yangzi to the south. The Huanghe flows through rolling loess country, formed by vast accumulations of glacial windblown dust laid down during the Ice Age. In its upper reaches it turns sharply northward to encompass the arid Ordos Desert, upstream of the so-called Huanghe corridor where the Shang state was formed. In these northern lands, the dry and permeable loess soils and the cold winters necessitate the growing of drought-resistant cereal crops such as millet.

The boundary between northern and southern China follows the Qinling Mountains in the west and the Huai River to the Pacific coast. Southern China is much warmer and better watered, with more equable winters and hot summers, which are ideal for rice cultivation in waterlogged fields. Thus, for many centuries, two distinct agricultural traditions developed. Northern China had dry, rainfall-supported farming of hardy cereal crops, while southern farmers subsisted on many forms of rice. The boundaries between the two provinces were never rigid, however, with many variations in local farming practices that resulted from both cultural preferences and favorable and unfavorable climatic conditions.

MILLET AND RICE (C. 7000–3500 B.C.)

The first Chinese farming cultures appeared suddenly in the archaeological record as early as 7000 B.C. But, right from the beginning, northern and southern Chinese farmers pursued quite different agricultural regimes.

The North: Yangshao and Cishan

It is a Swedish geologist, J. G. Andersson, who must be credited with the discovery of the Chinese Neolithic. In 1921 he was given polished stone axes, similar to those of Neolithic Europe, and red pottery bowls, painted with elaborate designs in brown or black, from Yangshao-cun in the great loess plain of the Huanghe basin. These first discoveries of the Chinese Neolithic became known as the Yangshao culture. With the advent of radiocarbon dates, however, it has become clear that the Yangshao is far from the earliest Neolithic culture of northern China. Much earlier is the site of Cishan, at the foot of the mountains overlooking the lower plain of the Huanghe. The structural remains at Cishan are merely storage pits and sunken house foundations, but found among them were pottery vessels and evidence of agricultural activity: grindstones; hoes and reaping knives; bones of domestic dogs, pigs, and chickens; and abundant carbonized remains of foxtail millet. These leave no doubt that Cishan was a village of early Chinese farmers, growing millet and raising pigs and chickens on the edge of the northern plain. Radiocarbon dates from sites like Cishan fall in the late seventh or early sixth millennium B.C. and suggest that millet farming may have begun in this region as early as 7000 B.C. It was a pattern that was to continue for thousands of years.

Cishan pottery bears less-sophisticated decoration than the later Yangshao painted wares, but the striking feature is the prominence of tripod vessels—bowls with three tapering feet, enabling them to stand upright on an uneven surface. They are not the first pottery in China; coarse-ware sherds from Nanzhuangtou in the northeast have been dated to around 10,000 B.C., and cord-marked sherds from cave sites such as Xianrendong and Diaotonghuan in the south are earlier still, before 12,500 B.C. But the Xianrendong ceramics have pointed bases, and it was in no sense a farming village. The Cishan tripod vessels, by contrast, stand at the beginning of a long sequence. Tripod vessels—by then in bronze—were still being manufactured in the Shang period, over 4,000 years later.

The South: Tianluoshan and Hemudu

Millet was, and remains, a primarily north Chinese crop, although it is also grown in Taiwan. Further south, the staple cultigen was rice. Here the key site is Bailigang, in the Middle Yangzi valley, where excavation has yielded remains of domesticated rice dating from c. 6500 B.C. From approximately the

same period there are remains of domesticated rice from Kuahuqiao in the Lower Yangzi valley. By 5000 B.C., rice cultivation was well-established at Hemudu and Tianluoshan in the Yangzi delta region. At Hemudu, the timber houses were raised on posts a meter above the marshy ground; waterlogging was the reason for the well-preserved state in which they were found. There was also pottery—with cord decoration and occasional incised or painted designs of plants and animals—along with hoes, made from animal shoulder blades; wooden sticks and mallets; bones of domestic dogs, pigs, and water buffalo.

The marshy land of the Lower Yangzi valley made it an ideal location for the cultivation of wet rice. The process of domestication is revealed by rice remains from Longqiuzhuang, where wild rice is present in the Majiabang phase (4800–4000 B.C.) but much larger grains in the later levels belonging to the Songze phase (after 4000 B.C.). Thus, it was only around 4000 B.C. that rice remains from settlements in the Lower Yangzi yield fully domesticated forms of rice that were grown in small paddy fields. Cishan and Longqiuzhuang represent the twin pillars of early Chinese village life: millet and pigs and chickens in the north; rice and water buffalo in the south. Cishan, with its tripod vessels, also shows the first stage in the development of distinctive and traditional pottery types, the precursors of the ritual bronzes that were such an important feature of early historic society in China. Hemudu, too, has its cultural "first": a red, lacquered wooden bowl. Lacquerware was to become another typical feature of Chinese civilization.

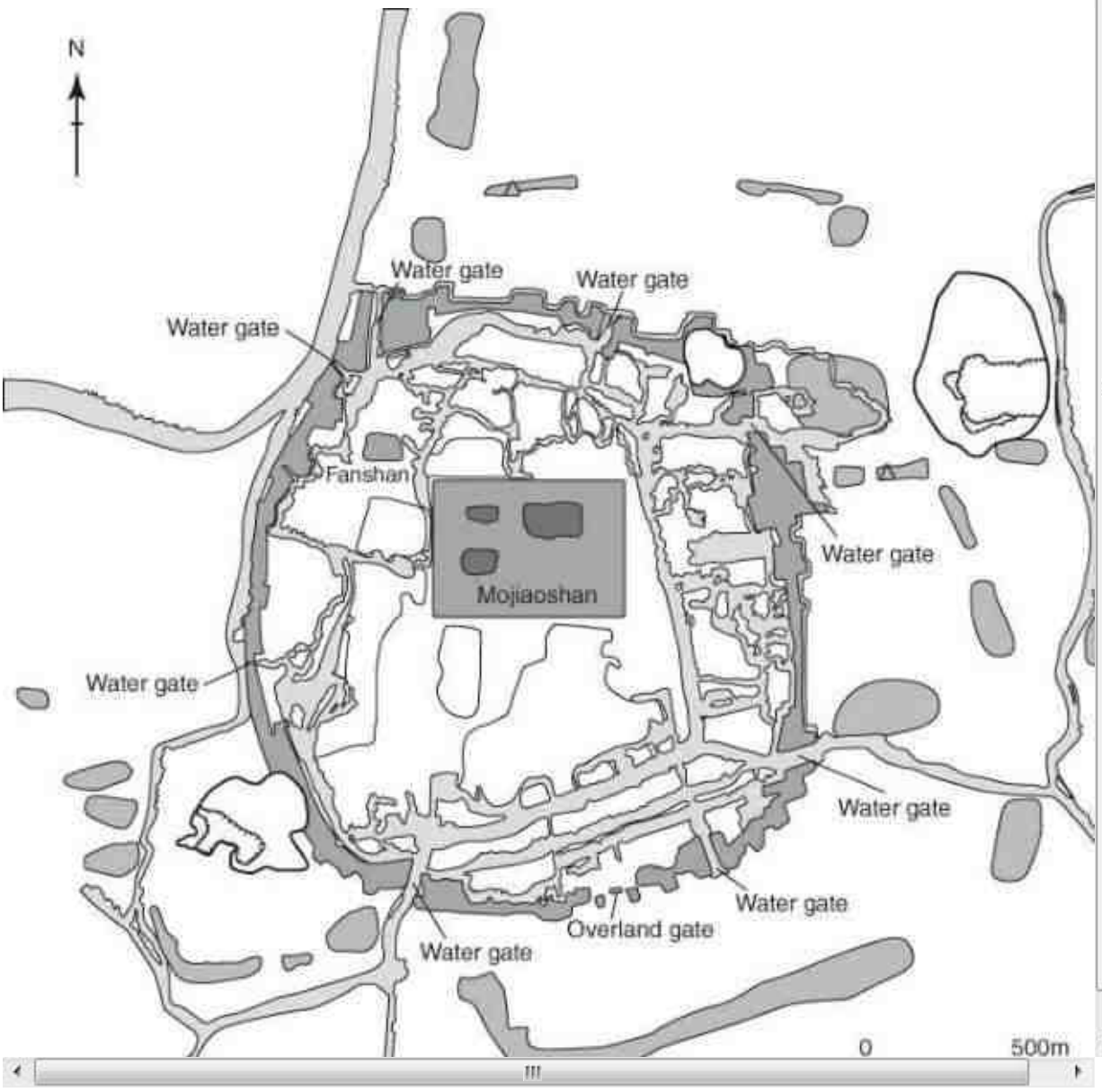
By 3500 B.C. farming villages had spread to many regions of China, and a wide diversity of cultural traditions had emerged. During the centuries that followed, Chinese societies became increasingly complex, and evidence of social hierarchy began to appear. A number of separate centers developed: in Manchuria in the northeast; on the edge of the steppe zone in the northwest; in the lower Yangzi valley; in the Shandong peninsula; and in the Huanghe basin, traditional birthplace of the first Chinese civilization.

LIANGZHU (C. 3300–2300 B.C.)

The earliest and most significant of these regional developments is associated with the site of Liangzhu in the marshy lowlands of the Yangzi delta (Figure 6.1). This was a settlement much larger than any that had gone before, surrounded by an earthen wall on a stone foundation that enclosed an area of

300 hectares. The wall was an impressive structure, up to 20–m thick and it still survives to a height of 4 meters. Within and around it was a system of artificial moats, ditches, and canals totaling over 30 kilometers in length, and with 8 water gates giving access to the city itself.

FIGURE 6.1 The walled center of Liangzhu showing the moats and canals, the enclosure wall with water gates, the central Mojiaoshan palace platform, and the Fanshan cemetery of elite graves.



At the center of Liangzhu was an enormous trapezoidal mound, Mojiaoshan, covering an area of 30 hectares, supporting three separate palace compounds. Further evidence of the elite that ruled this city is provided by the Fanshan, Yaoshan, and Huiguanshan cemeteries, where the burials of powerful individuals were furnished with elaborately craft jade ornaments. Some of the most elaborate have been reconstructed as ornaments attached to ritual headdresses. Jade is a general term for a family of fine translucent stones, including nephrite, tremolite, and chrysolite. It was clearly a valued material in the third millennium B.C. and remained so in China until recent times, being considered even more precious than gold. The richness of the Liangzhu jade-working tradition may have owed much to the proximity of local sources near Lake Tai in the lower Yangzi plain. Its significance goes further than the mere use of jade, however, for the designs of many of the pieces continued into later periods. This is most notable in the case of the flat, polished rings (*bi*) and the rectangular tubes with square facets along their corners and a longitudinal central perforation (*cong*). We do not know their meaning in Liangzhu times, but in historic China the *bi* was the symbol of heaven and the *cong* of earth. The discovery of them in graves at Liangzhu suggests that even at this early date, these were symbols of particular potency.

The geographical location of the Liangzhu culture gives these early jades further significance. The Liangzhu area lies outside the Huanghe basin, where the Shang civilization later emerged, yet many of the jades carry animal-mask motifs very similar to the designs known as *taotie* (with symmetrical motifs, including prominent eyes on either side of a central vertical line) that appear frequently on later Shang bronzes (see Figure 6.9). Furthermore, early examples of *bi* and *cong* are not restricted to the Liangzhu area but are found in other regions of China, where they represent the spread of Liangzhu influence. All in all, it is clear that Liangzhu in the late fourth and early third millennia B.C. was a center of great cultural influence and innovation, perhaps a powerful chiefdom or protostate.

The importance of Liangzhu is not restricted, however, to the walled settlement and the richly furnished burials. From around 3100 B.C. the entire landscape was transformed by the construction of earthen dams to control the flow of water. By this means the swampy lowlands were made habitable and suitable for the cultivation of rice in paddy fields. Five high dams, up to 10 meters (33 feet) high and 200 meters (650 feet) long, were built across

valleys to the northeast, creating two large reservoirs. On lower ground nearer the city, dams and levees were built to control run-off from the mountains. The most extensive, the Tangshan levees, are up to 50 meters (165 feet) wide and 7 meters (23 feet) high, and continue for a distance of 5 kilometers (3 miles). The scale of civil engineering is unprecedented anywhere in the world at such an early date. They illustrate the power of the Liangzhu elites, able to marshal and direct the enormous labor force that must have been required.

RITUAL AND PILGRIMAGE: THE NIUHELIANG TEMPLE (C. 3500 B.C.)

A rather different tradition is represented in northeastern China, beyond the Great Wall. The key sites here are Dongshanzui and Niuheliang, which belong to the Hongshan culture (c. 4500–3000 B.C.). This culture is characterized by small scattered settlements close to ceremonial sites with elaborate burials. At Dongshanzui, Chinese archaeologists have discovered two related structures: a small, circular paved area, 2.5 meters (8 feet) across, and a rectangular area, 11.8 meters (38 feet 8 inches) long by 9.5 meters (31 feet) wide, defined by curbstones. These are interpreted as ritual monuments, a verdict reinforced by the discovery of fragments of clay statues. Similar statues, many of them life-sized but including parts of noses and ears three times as large, were excavated at Niuheliang. There was also a complete life-sized clay head, with blue-green jade inset for the eyes. This was found in a cruciform structure 25 meters (82 feet) long, with multiple subterranean chambers. The identification of the clay face as female has led archaeologists to label this structure the Goddess Temple. The Dongshanzui and Niuheliang sites are dated to around 3500 B.C.

The “Goddess Temple” is unique, but Niuheliang stands within an area with more than twenty square circular stone-faced earthen platforms covering elite burials furnished with ritual jades. This is not an area of high agricultural productivity, however, and it is likely that Niuheliang was not a major population focus but a center of pilgrimage, drawing visitors from surrounding regions. It is very different in scale from Liangzhu or from later sites such as Taosi and Shimao.

The discoveries at these Manchurian sites nonetheless indicate the presence of a flourishing regional tradition in northeast China in the fourth

and third millennia B.C., running parallel with the Liangzhu culture in the southeast. Furthermore, while very different in most respects, they do share one significant feature: the use of ritual jades. (Those of Liangzhu were discussed in the previous section.) In Manchuria, jade working is even older, beginning in the sixth millennium B.C. This is demonstrated by the discovery of eight carved jades at the important early farming site of Chahai near Fuxin. Four of the Chahai jades are of *jue* slit-disk form, a distinctive type that became traditional in the Shang and Zhou periods. Thus, it seems that in Manchuria, too, as in the Liangzhu area, societies developed the use of ritual jades at an early date.

ELITE TRADITIONS IN THE LONGSHAN PHASE (C. 2800–1800 B.C.)

So far we have been reviewing general developments in different parts of China during the early and middle phases of the Neolithic. If, however, we are searching for the immediate origins of the most famous of Chinese Bronze Age civilizations, that of the Shang, the obvious place to look is at the cultures that immediately precede it in the Shang core area: the middle valley of the Huanghe.

The Late Neolithic cultures of this area are known as Longshan. This phase is divided into some half a dozen regional types, which fall within the same time bracket (2800–1800 B.C.) and are sometimes described as forming an *interaction sphere.* This term indicates that these regional groups were in contact with one another and were actively borrowing cultural features from one another. The result was a process of cultural convergence that culminated in the Shang Bronze Age, which followed the end of Longshan. The fuel for this process was provided by the emergence of elite groups who struggled to emulate and surpass one another by acquiring the newly established trappings of power and status. This resulted in the rise of a cultural sphere of increasing homogeneity. It must be borne in mind, however, that most of China did not participate in this process and that rival traditions developed in other regions. These will be discussed later.

Pottery and Ritual

Longshan potters made a highly distinctive form of glossy, black pottery, which showed a new competence in both form and firing. Shaped on the wheel, classic Longshan ware was plain or simply decorated and was fired at high temperatures to give a crisp, thin-walled product. The high temperatures needed for this pottery led to innovations in kiln design, resulting in kilns that could achieve temperatures of around 1,200 degrees centigrade (2,192 degrees Fahrenheit), sufficient for the smelting and casting of copper. It is no coincidence that some of the earliest copper objects from China are a pair of awls from the Longshan site of Sanlihe. Some of the pottery vessels seem to imitate metal types, and Wangchenggang has yielded a fragment of a copper alloy vessel. In Shang times, the possession of a set of bronze ritual vessels was the prerequisite for elite status. Wangchenggang may have been an elite center, just the kind of place one would expect such vessels to be found. The finest Longshan pottery—the black, lustrous box, jar, and cup—may have been the ceramic antecedents, and the Wangchenggang fragments might well mark the transition from pottery to metal for such elite ritual vessels.

Another innovation of the Longshan groups was the adoption of scapulomancy—the practice of divination by applying heated implements to animal shoulder blades and turtle shells. In Shang times, professional diviners interpreted the resulting cracks in terms of answers from the gods to specific questions from the ancestors, which had been put to them beforehand. We know this was the custom in Shang times because many of the so-called oracle bones were inscribed with details of both the question and the resulting answer. The Longshan oracle bones bear no inscriptions but are presumably evidence of the same practice in earlier centuries.

Walls and Warfare

Perhaps the most significant of all Longshan innovations was the appearance of rectangular defensive enclosures. These range in size up to more than 350 hectares (865 acres) at Yaowangcheng. The walls were of a special Chinese construction known as *hang tu,* or “rammed earth,” and were the earliest examples of this technique. It consisted of pouring regular layers of loose earth, some 10–15 centimeters (4–6 inches) thick, between parallel lines of timber shuttering—rather in the way that concrete is poured today. Then the workers compacted the layers by pounding them with long wooden poles, some 3–4 centimeters (1–1.5 inches) in diameter. Once one layer was

finished another would be poured on top, and the process was repeated until the desired height was reached. Longshan walls made in this way were up to 10 meters (35 feet) thick and sometimes survive to a height of several meters; the horizontal marks left by the timber shuttering are clearly visible on their sides.

The gate structure at Pingliangtai confirms that these were defensive works since it boasts rectangular guardhouses of large sun-dried bricks on either side of the entranceway. There is other evidence, too, that these were violent times: At the Longshan settlement of Jiangou a number of people had been thrown into two dry wells, some decapitated and others showing signs of struggle. If the people of Jiangou suffered a violent fate, there is evidence that they themselves inflicted similar suffering on others. Six skulls had been placed as a foundation deposit beneath one of the houses, all with signs of wounds or scalping.

What is not clear is whether the rammed-earth enclosures were the foci of incipient states. The construction of the walls indicates centralization of authority, and within them are houses and craft areas. Toward the end of the Longshan period, however, raised platforms of rammed earth began to appear within the enclosures. These rectangular structures are interpreted (by analogy with later periods) as the foundations of small palaces or elite residences, especially since they incorporate human sacrifices in their foundations. They dominate regional settlement patterns. One of the most important sites of the period was Taosi, a 280–hectare (690–acre) rammed-earth enclosure in southern Shanxi, where elite residences were separated from those of commoners by dividing walls. Occupied from 2300–1900 B.C. this was the largest settlement of its period in the Central Plains. In the surrounding landscape, fifty contemporary settlements have been discovered, falling into three different size classes: a three-tiered settlement hierarchy of the kind associated with early states. Like other sites of its kind, however, Taosi was abandoned early in the second millennium B.C. The nascent state formation that it represented was nipped in the bud.

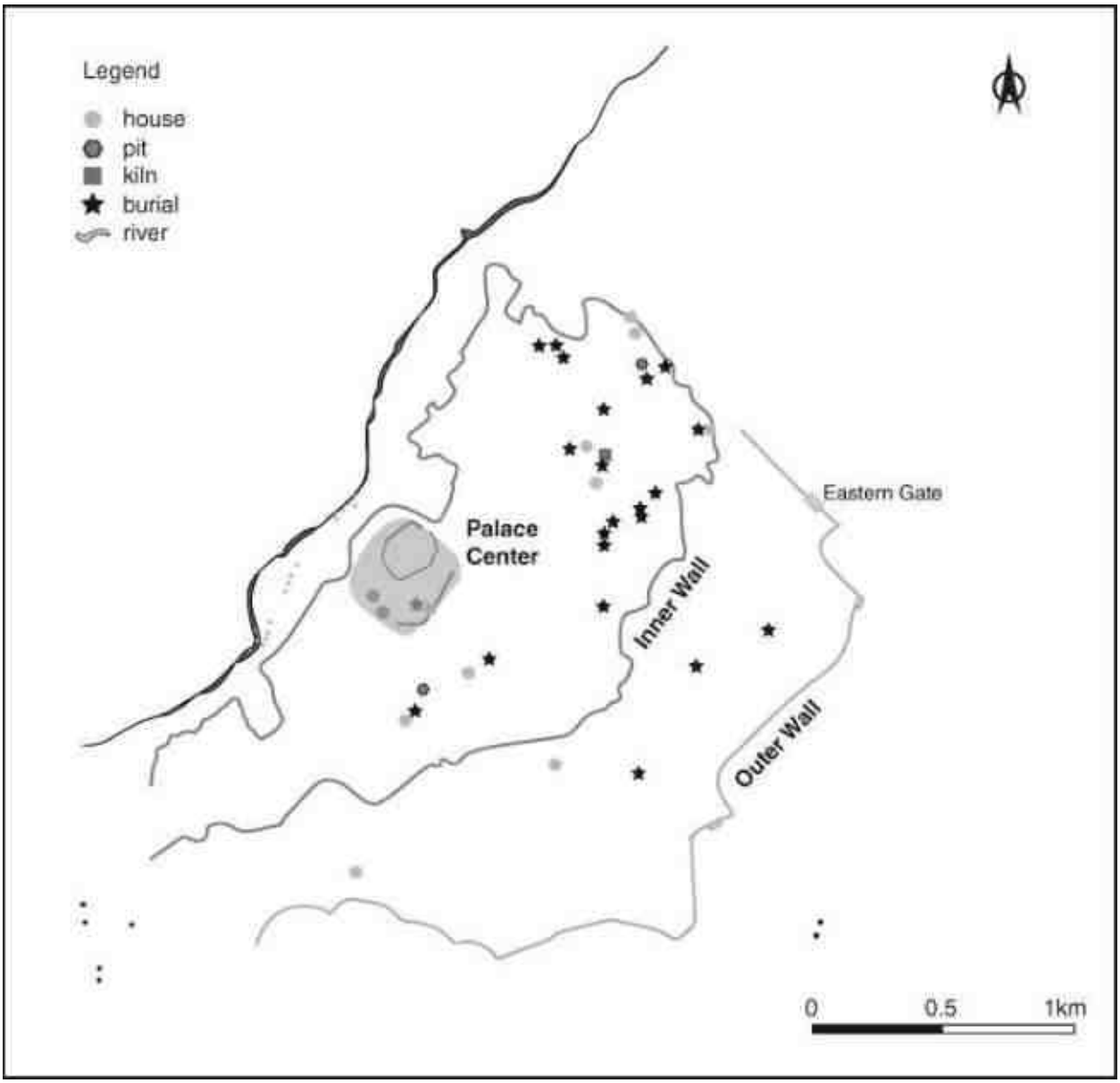
SHIMAO AND THE NORTHERN ZONE (C. 2300–1800 B.C.)

The end of Taosi was evidently violent: The wall was breached, and dead bodies were left lying in the palace compound. Immediately afterward, a new

type of pottery replaces the earlier local ceramics, a type associated with a walled elite center away on the northern loess plains: Shimao.

The settlement of Shimao is enclosed by two stone walls and dominated by a central palace complex atop an eleven-stepped pyramid 70 meters high (Figure 6.2). This was built around 2300 B.C., but shortly afterward a stone inner wall was added, enclosing a residential area of 210 hectares. A second, outer wall followed in 2100 B.C., extending the enclosed area to 400 hectares and more seriously defensive than the inner wall, with closely spaced bastions and gates protected by towers and outworks.

FIGURE 6.2 The early walled settlement of Shimao in northern China.



The architecture at Shimao contrasts strongly with that further south in its use of stone blocks rather than rammed earth (Figure 6.3). Votive offerings of jade were placed within the walls, and ritual practice also involved large-scale human sacrifice, with pits containing human skulls. This important settlement appears to have dominated a wide area of northern China bordering the steppes, an area that traditionally has been regarded as peripheral in the history of early Chinese states. Shimao did, however, play a vital role, not only as the center of an extensive early polity, surrounded by a network of smaller stone-walled settlements, but also in the transmission of metallurgy from the steppes to central China. The people of Shimao acquired

knowledge of metallurgy from their steppe neighbors and established their own bronze production. Their far-flung trade networks also brought them into contact with societies to the south. Knowledge of bronze metallurgy may have spread southwards through these contacts. Most likely, however, it was climate change that played the decisive role. As cold, dry conditions developed on the northern plains, people from Shimao spread southwards, first, as we have seen, to Taosi, then to Erlitou. It is Erlitou that stands at the beginning of the Shang Bronze Age.

FIGURE 6.3 Retaining wall for the central platform at Shimao.
Xinhua/Alamy Stock Photo.

THREE DYNASTIES: XIA, SHANG, AND ZHOU (C. 1800–1046 B.C.)

Contemporary written records of early Chinese history do not really begin until the Han period, in the last two centuries B.C. One reason for this is that many of them were written on perishable materials such as silk, bamboo, or wood. Another is that the first emperor of China, Qin Shihuangdi, acting on the advice of his prime minister, Li Si, ordered the destruction of all historical documents except those relating to his own home state, Qin. Nonetheless, enough survived for Chinese historians of the Han period (206 B.C.–A.D. 220) to trace the main events of Chinese history well back into the Bronze Age. The scheme they came up with was based on a sequence of three major dynasties: Xia, Shang, and Zhou, leading up to the accession of Qin Shihuangdi in 256 B.C.

> *When Yi (founder of the Xia dynasty) assembled the lords at Tushan there were ten thousand states that came carrying jades and silks. At the time when Cheng Tang (of the Shang dynasty) received the mandate, more than three thousand states remained. When Wu Wang (of the Zhou dynasty) viewed the troops, there were eighteen hundred states.*
>
> (Chang, 1986, p. 307)

Thus did the historian Gu Zuyu, writing in the seventeenth century A.D., summarize the course of early Chinese history, outlining the increasing centralization of royal power as one dynasty replaced another. His concept was of a China gradually unified under a single ruling house. In this chapter and Chapter 14 we see just how well Gu Zuyu's outline history agrees with the evidence of archaeology for the pattern of development of the first Chinese kingdoms.

Xia and Shang

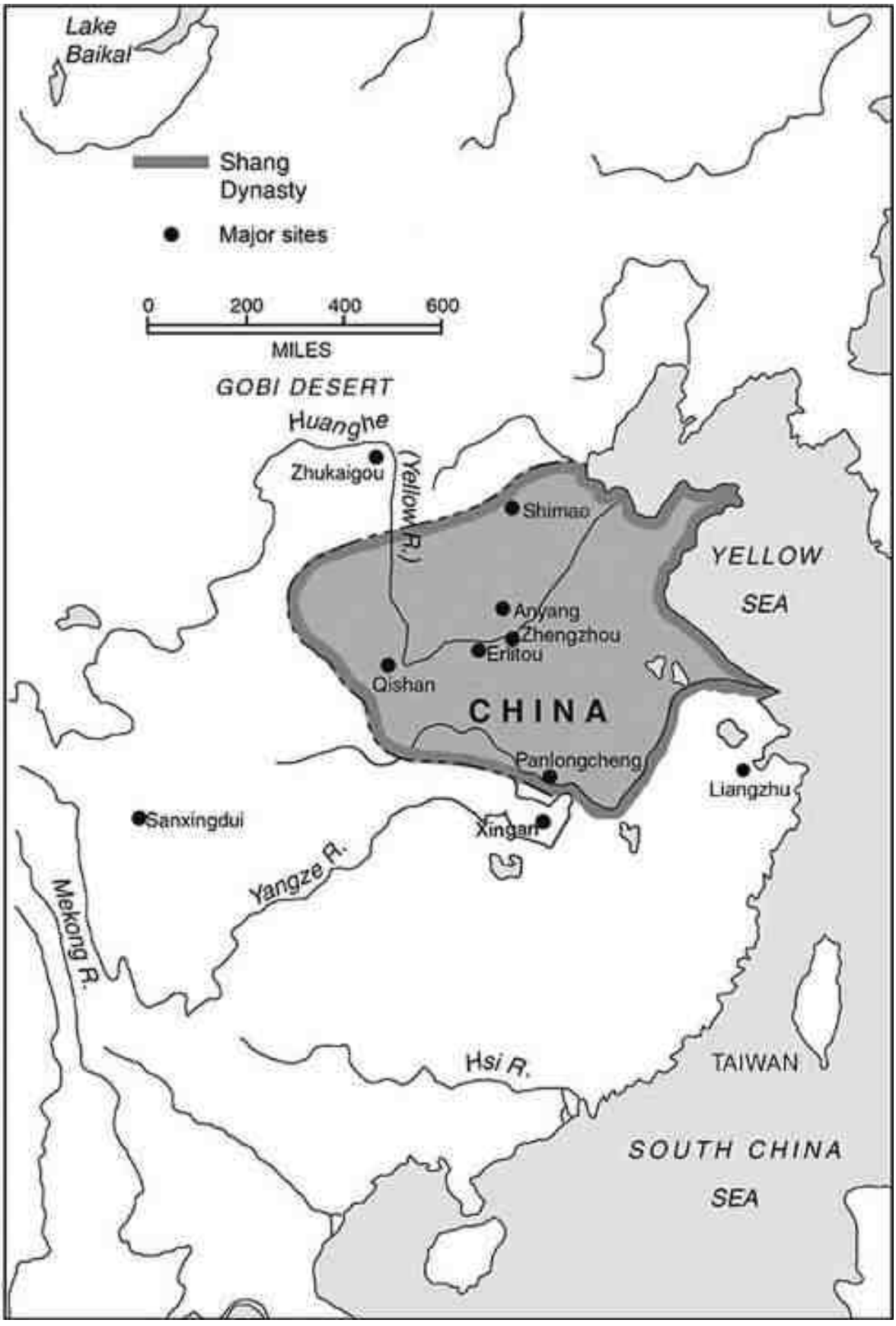
The traditional Chinese historical narrative begins with three shadowy mythological rulers—Fu Xi, the common ancestor; Shen Nong, first planter of crops; and Zhu Rong, inventor of fire. Five equally mythological emperors follow before we arrive at the beginning of Chinese history proper, with the Xia, first of the Three Dynasties. We know from the sequence of the Three Dynasties that the Xia was supposed to precede the Shang, but both when and where the Xia dynasty reigned remains in doubt. Astronomical observations

preserved in later records give a possible fix through an eclipse that took place in the reign of Zhong Kang, fourth king of the Xia dynasty. American historian Hung-hsiang Chou and astronomer Kevin Pang have calculated that if this observation is accurate, then the eclipse in question took place in 1876 B.C. As for location, the study of place-names associated with the Xia in historical records points to the modern province of Henan, in the middle valley of the Huanghe.

Henan is in the heart of the Longshan culture area and hence a perfectly logical place for the first Chinese states to appear. Its importance in developments of the period was borne out by the discovery in 1957 of the site of Erlitou, a major center that belonged to the very earliest period of the Chinese Bronze Age.

Here, a note on chronology and terminology may be helpful. Radiocarbon dates for sites of the Erlitou phase run from c. 1800 B.C. to around 1600 B.C. This marks the first phase of the Chinese Bronze Age, a period that continues past the end of the Shang dynasty into the first millennium B.C. In archaeological terms, the Erlitou phase is followed by the Erligang and Anyang phases. Some authors incorporate all three phases under the heading Shang, so that Erlitou equals Early Shang, Erligang equals Middle Shang, and Anyang equals Late Shang. That may be a convenient archaeological classification, but in historical terms Erlitou can perhaps be equated with the period of the shadowy Xia dynasty and may indeed have been one of their capitals. The following dynasty, the more famous Shang, succeeded the Xia, probably in around 1600 B.C. But in terms of cultural style—in the decoration of bronze ritual vessels, for example—no distinction can be made between Xia and Shang. Thus, the name *Shang* can be used for both the historical dynasty and the archaeological culture. The bronzes of the Erlitou phase are already described as Shang in style. The Xia and Shang dynasties are merely two parts of a single Shang culture, beginning in 1800 B.C. and ending when the last Shang king was overthrown by the Zhou dynasty in 1046 B.C. Therefore, we will set aside the historical distinction between Xia and Shang dynasties and deal with the centuries 1800–1046 B.C. as a single archaeological period, which we refer to as *Shang* (Figure 6.4).

FIGURE 6.4 Map of major Shang period sites: Anyang, Panlongcheng, Erlitou, Zhengzhou, Qishan, Sanxingdui, Zhukaigou, Xingan.


Lake Baikal
Shang Dynasty
Major sites
0 200 400 600
MILES
GOBI DESERT
Huanghe (Yellow R.)
Zhukaigou
Shimao
YELLOW SEA
Anyang
Zhengzhou
Erlitou
Qishan
CHINA
Panlongcheng
Liangzhu
Sanxingdui
Xingan
Yangze R.
Mekong R.
Hsi R.
TAIWAN
SOUTH CHINA SEA

The origins of the first Chinese state lie, as we have seen, in the immediately preceding cultures of the central northern plains, which saw the rise of major walled sites such as Taosi. As we have seen, there was also an important contribution from northern China, and the introduction of bronze technology came through contact with the major center of Shimao. It was from these disparate origins that the early Shang state developed, drawing together the various elements to create a new cultural and political tradition that persisted for over a thousand years.

Shang Cities

The key sites for the study of Shang civilization are the ancient cities of Erlitou (for the earliest, or Erlitou, phase, 1800–1600 B.C.), Zhengzhou (for the middle, or Erligang, phase, 1600–1400 B.C.), and Anyang (for the last, or Anyang, phase, 1250–1046 B.C.). The smaller city at Huanbei may fill the chronological gap between Zhengzhou and Anyang. These cities differ from the walled enclosures of earlier periods in a number of important respects:

- The Shang centers enclosed large courtyard structures and walled "palace-temple" areas; they had large workshops, and tombs and ritual deposits containing cinnabar, jade, lacquer, turquoise, and fine ceramics.
- The Shang centers drew exotic raw material from much wider and more distant sources than the earlier Longhsan enclosures.
- The elite materials from Shang centers are more abundant and varied than those from Longshan sites, as befits the rise of a state-level society.
- The production of ritual bronze vessels appears to have been restricted to the primate centers of Erlitou and Zhengzhou, demonstrating a measure of centralized authority.
- Finally, the Shang walled enclosures are found over a much wider area of China, including the middle valley of the Yangzi; this represents the spread of Shang elite traditions into neighboring regions and the formation of more extensive political alliances.

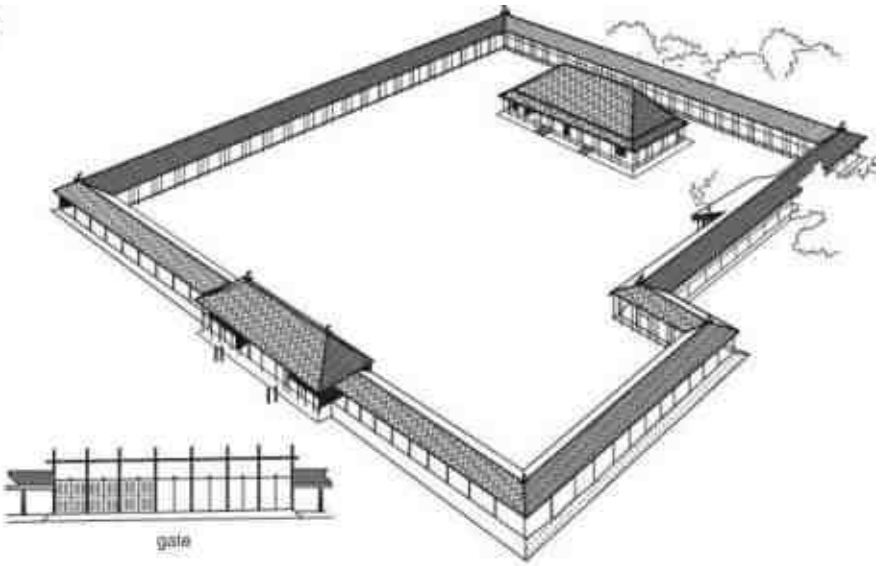
A brief description of the key Shang centers will help to illustrate these points.

Erlitou

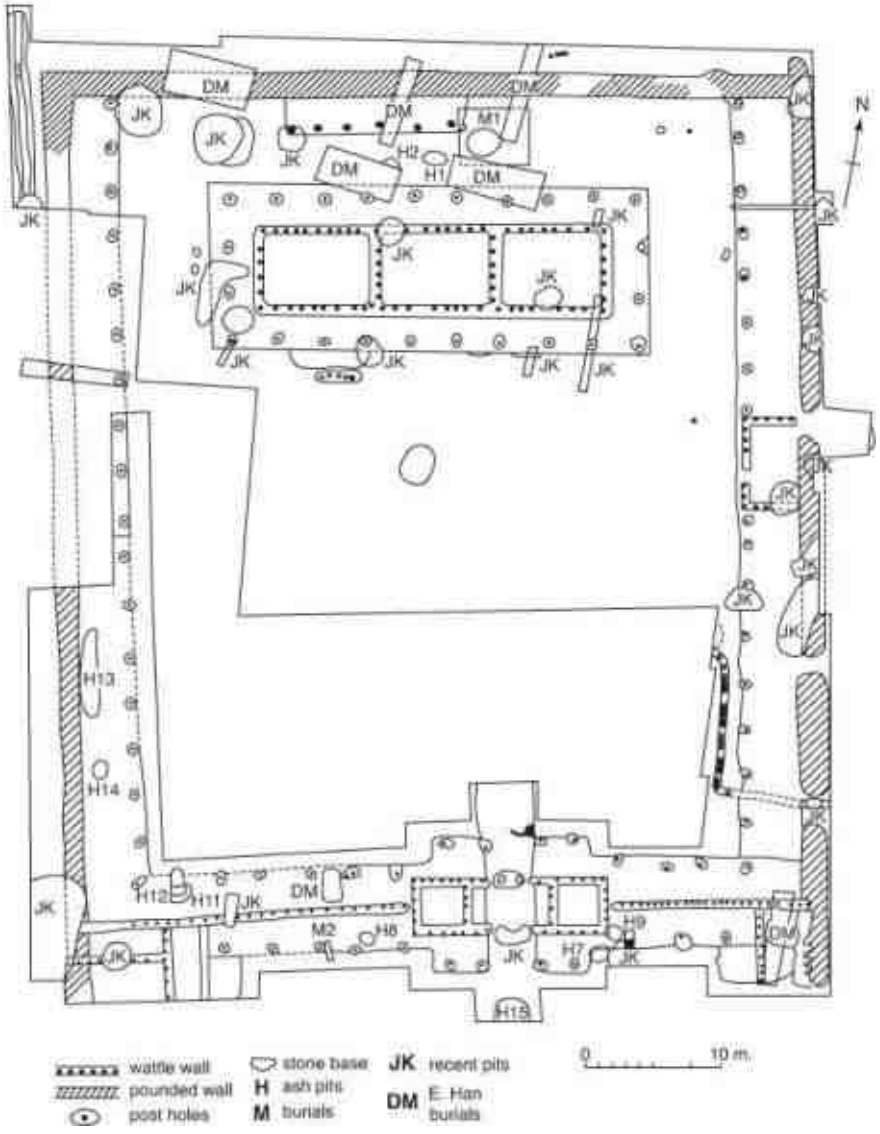
This site, discovered by Chinese archaeologists in 1959, belongs to the Early Shang period. As we have seen, it may have been one of the capitals of the Xia dynasty. It was founded during a period of greater aridity when a multicropping system of local and exotic domesticates (wheat and barley) was introduced, and when central coordination of agriculture may have been needed to support the growing population. Remains are scattered over a large area 2 by 2.5 kilometers (over 1 by 1.5 miles), covering 300 hectares. The most conspicuous feature is the 11-hectare palace-temple enclosure at the heart of the complex. Within are a pair of two-stage stepped platforms—large platforms that cover up to a hectare (2.5 acres) with smaller platforms built on top of them, toward their northern edge (Figure 6.5). These platforms were of *hang tu* (rammed-earth) construction and seem to have been the bases of elite residences or palaces. In both cases the lower platform is fringed by a rammed-earth wall, no doubt to separate the elite zone from the areas occupied by the ordinary populace. The elite buildings themselves had been made of wattle and daub on a timber framework, with a gabled and probably thatched roof. Even elite residences did not use costly or durable building materials at this period.

FIGURE 6.5 Plan and reconstruction of one of the palace-temples at Erlitou.

(a)


gate

(b)


N
DM
JK
M1
M2
H1
H2
H7
H8
H9
H11
H12
H13
H14
H15
0
10 m.
wattle wall
pounded wall
post holes
stone base
H ash pits
M burials
JK recent pits
DM E. Han burials

Bronze-casting and turquoise workshops were located immediately south of the elite compound, indicating centralized control of these important status markers. One elite burial at Erlitou had been furnished with a 70–cm-long dragon figure consisting of 2,000 jade and turquoise pieces placed on top of the deceased. This is reminiscent of the much later multi-piece jade burial suits of the Han period.

One feature of Erlitou that deserves special mention is the general layout of the elite enclosures: rectangular (or roughly so), facing south, with a main gate in the middle of the south side; the secondary platform with the principal elite building standing in the northern part of the enclosure. This is a common (though not universal) pattern in Chinese architecture from this period onward.

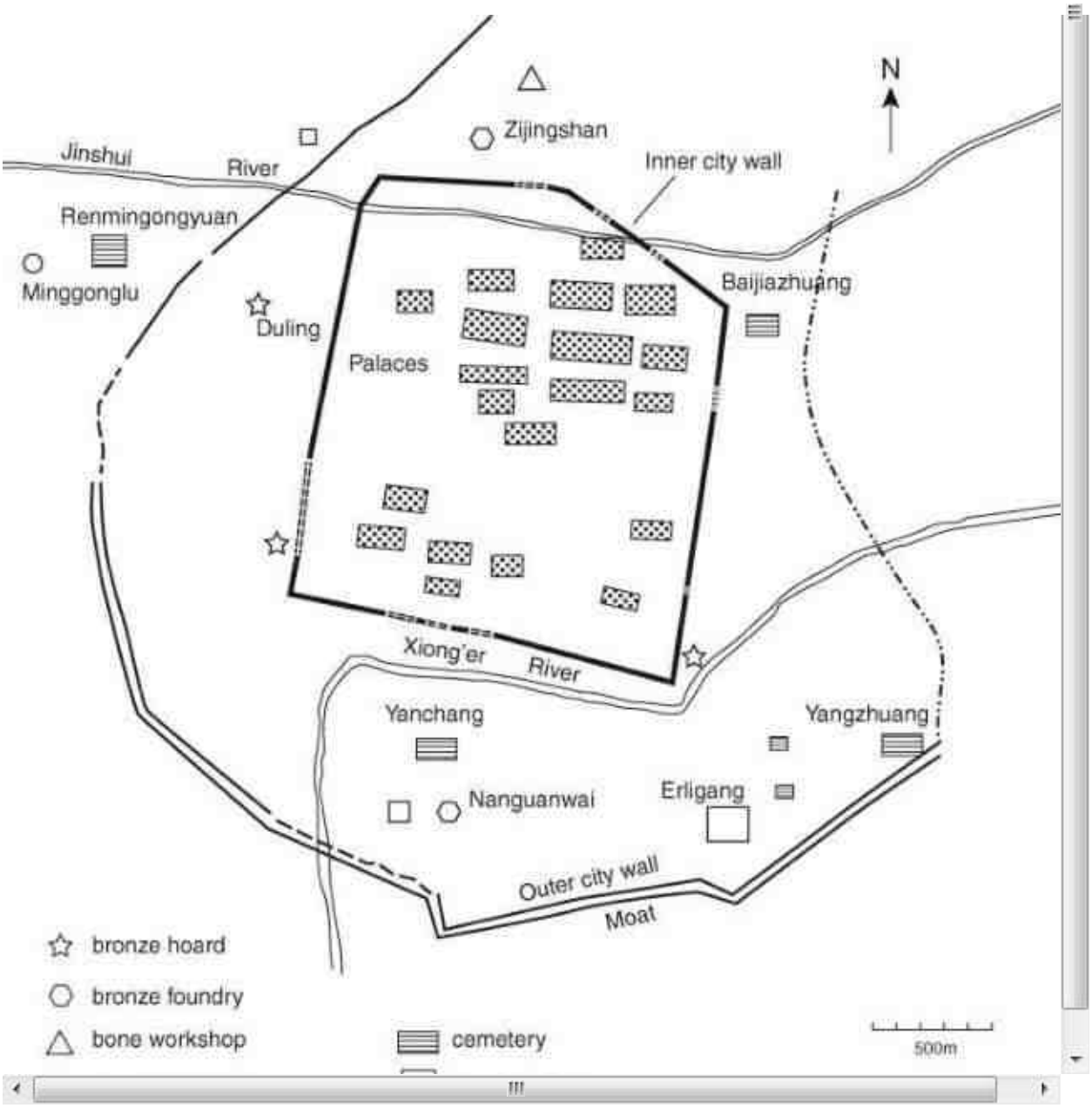
The smaller but better preserved of the two platforms at Erlitou had a large pit-grave, over 5 by 4 meters (16 by 13 feet), behind the main building. It had been plundered in antiquity, but traces of lacquer and cinnabar show that it was richly furnished. Other graves were found elsewhere on the site. Some had no grave goods of any kind, but a few were clearly elite graves, with lacquer coffins and bronze weapons and ritual vessels. The finds from Erlitou indicate a degree of social stratification a whole order of magnitude greater than those from Longshan sites. This is exactly what we would expect if (as seems clear) this was a state-level society.

Zhengzhou

Zhengzhou lies 100-km downstream along the Huanghe, where the river debouches from the mountains and flows toward the sea through a broad floodplain. This is rich farming country, with fertile loess soil brought down by the river from the higher lands to the west. Zhengzhou stands just south of the river at this strategic location, on the edge of a former lake. The core is a central enclosure surrounded by a rammed-earth wall 7 kilometers (4.5 miles) long, still standing in places over 9 meters (30 feet) high. The second element is an outer city around the main enclosure, including bronze workshops, pottery kilns, cemeteries, and ordinary dwellings. These are enclosed within an outer city wall which, although incomplete, defined an area of some 13 square kilometers (5 square miles), making Zhengzhou five times as large as Erlitou (Figure 6.6).

Within the Zhengzhou inner city lived the elite and the ritual specialists. Here are found rammed-earth palace platforms and ritual pits with sacrificed dogs and humans (see Figure 6.6). One of these buildings was probably the ancestor temple of the ruling lineage. The space between the two walls may have been occupied by a series of small dispersed communities, where lived and worked those on whom the elite depended: the bronze workers, who produced the all-important ritual vessels; craftspeople in bone and ceramics, who supplied more mundane items; and the farmers, who provided the privileged classes with food. In this area too there were also many graves: more than twenty elite graves with ritual bronzes, and hundreds more that contain only pottery.

FIGURE 6.6 Plan of the Shang city at Zhengzhou, showing palace platforms within the central walled compound, and workshops, cemeteries, and residential areas within the outer wall.



Zhengzhou far outstrips the scale of Erlitou and testifies to the rise of a powerful centralized state. Bronze working appears to have been restricted to Zhengzhou and was centrally controlled, and output was much greater than in the earlier period. Its power extended much further than before, almost as far as Beijing in the north and to the Three Gorges Region on the Middle Yangzi to the south. The important walled settlement of Panlongcheng on the Middle Yangzi was probably an outpost of the Zhengzhou realm. Important though it was, however, Zhengzhou has not been explored in detail and our image of

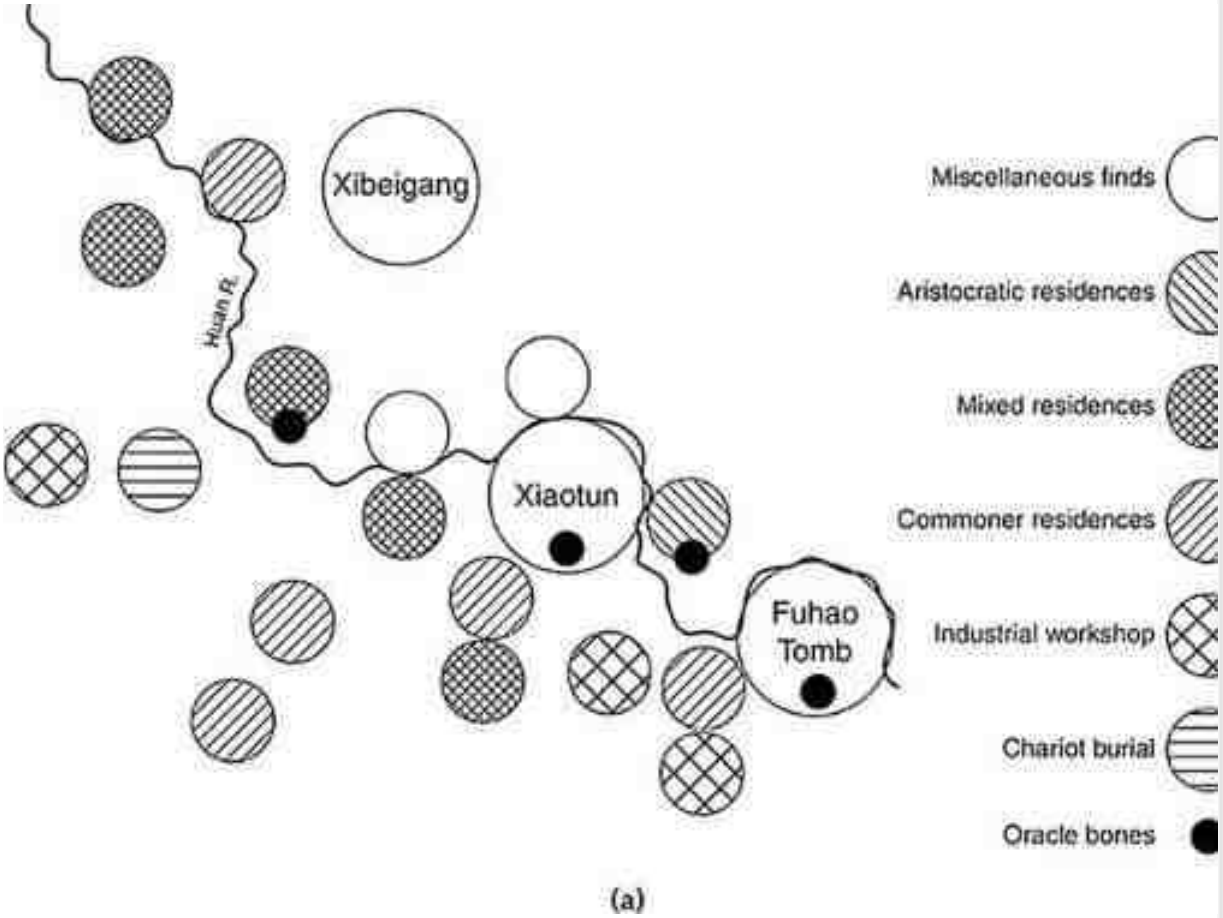
Shang China owes much more to the last and largest of the Shang capitals: Anyang.

Anyang

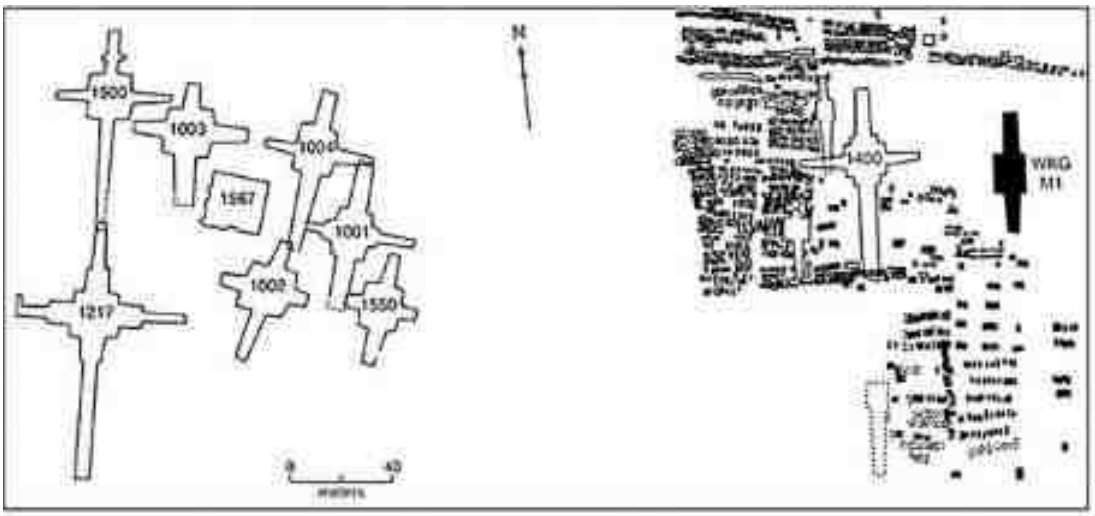
Chinese archaeologists have confidently interpreted the remains at Anyang as those of the last capital of the Shang dynasty, the city called “Yin” in historical sources. It is an enormous site, stretching for 5.8 kilometers (3.6 miles) along the banks of the Huan River. Inscribed oracle bones sold in a drugstore were traced in 1899 to Xiaotun, one of the villages in the Anyang area. These turned out to be records of the last Shang kings. In 1928 the Academia Sinica began excavations that have continued in different parts of this vast site up to the present day. Such is the scale of the work that according to one estimate, 90 percent of all the basic material for the study of Shang civilization comes from this one center.

In urban structure, Anyang differed from Zhengzhou in lacking a prominent enclosure wall but it was more than twice as large in overall extent. At the core of this mega-settlement was a ceremonial or ritual center supported by a more dispersed population of artisans with industrial workshops, and both rich and poor cemeteries (see Figure 6.7). The ritual center was at Xiaotun and consisted of a series of buildings raised on rammed-earth platforms. The whole palace-temple complex covered roughly 70 hectares (170 acres). In fact, Shang rulers were themselves ritual specialists, intermediaries with the ancestors (and beyond them, the gods) on behalf of their subjects. It is this religious role that legitimized the rule of the Shang kings. Thus, it is not surprising that rituals were practiced within the palace precincts. Most oracle bones come from Xiaotun, indicating that divination was a regular part of palace-temple rituals. Another aspect of Shang ritual was related to the building of the structures themselves: Large numbers of human sacrifices were found in the rammed-earth foundations. The buildings, like those of Erlitou some centuries before, were of timber-frame construction, with walls of wattle and daub and roofs of thatch; the only concession to grandeur was the bronze disks or stone bases used to support some of the timber uprights.

Figure 6.7 Anyang. (a) Diagram of urban cluster. (b) Plan of Xibeigang cemetery. (c) Reconstruction of Xiaotun house. (d) Diagram of shaft grave with single ramp.



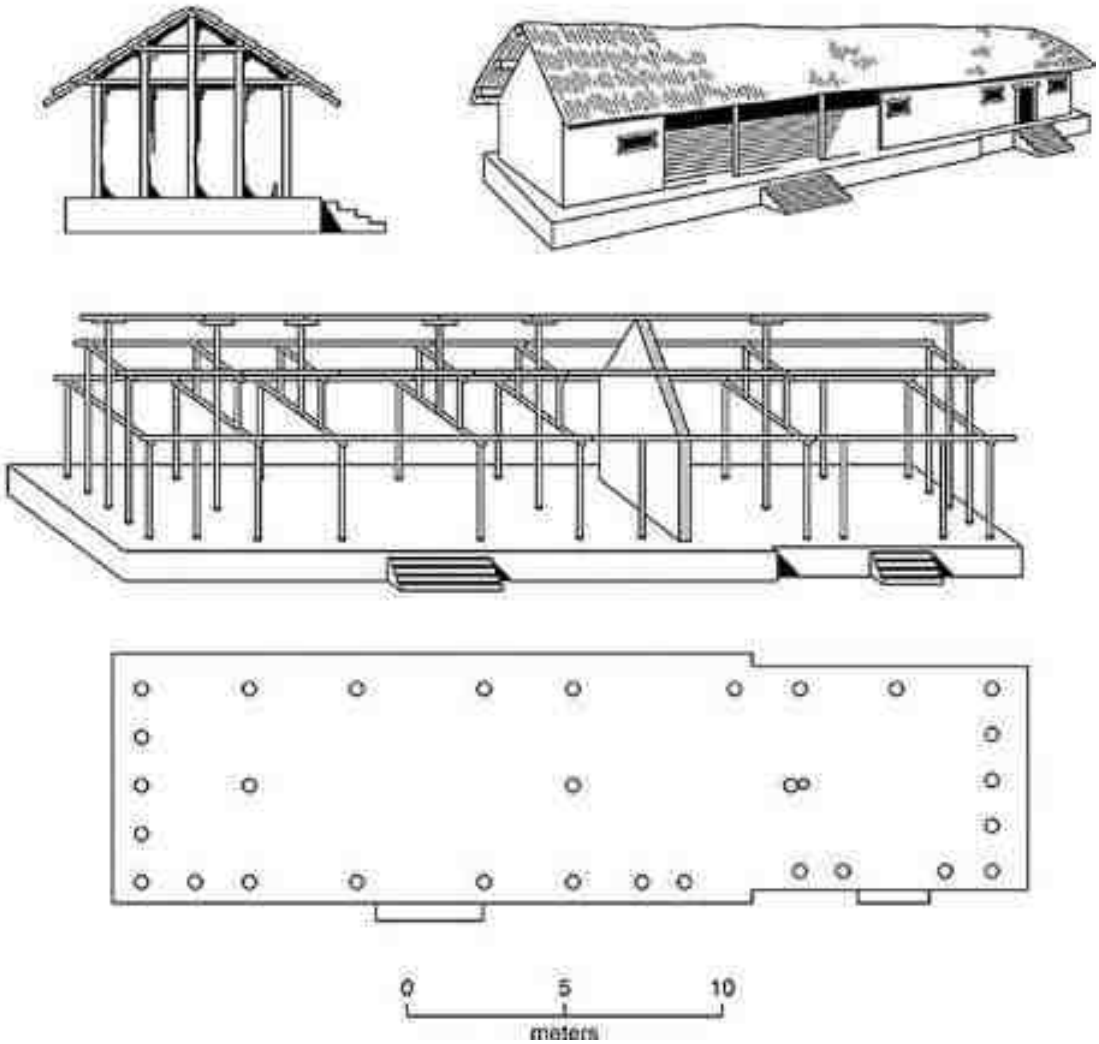
(a)

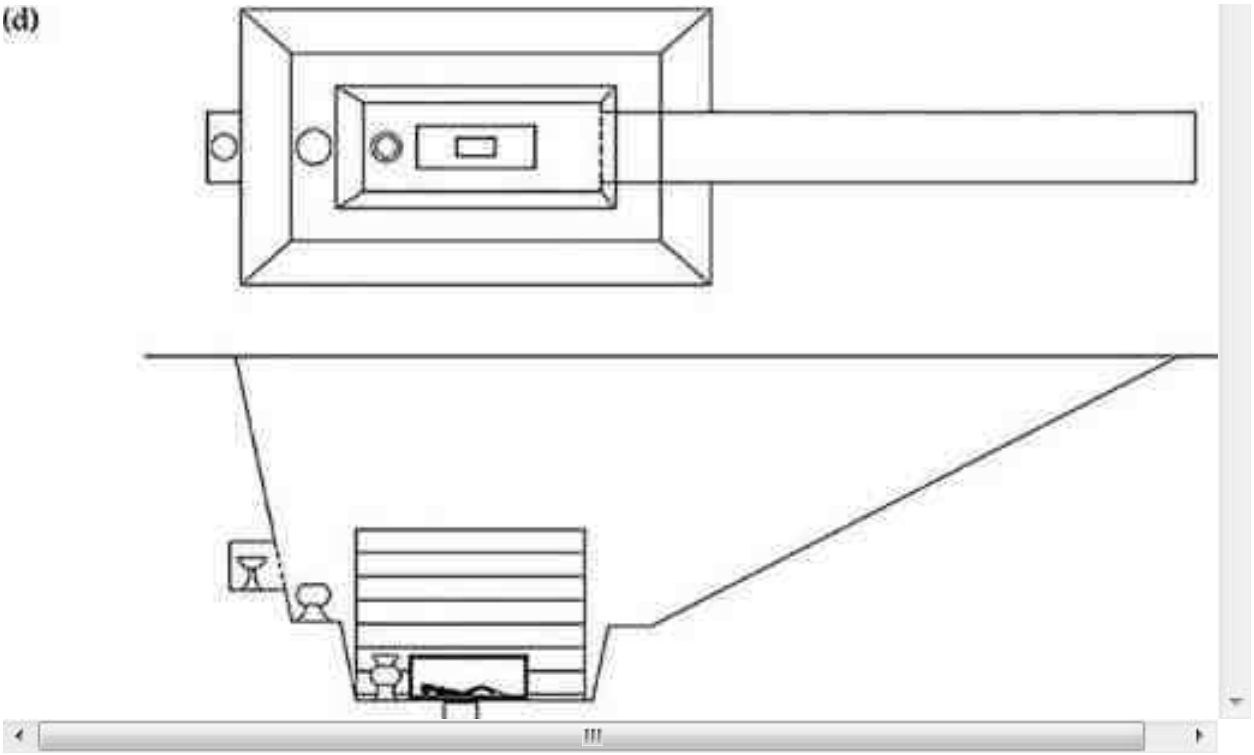


Excavated before 1949 | Excavated after 1950 | Identified after 1950 but still unexcavated

(b)

(c)





Royal Tombs at Anyang

Anyang is famous for its royal tombs, found in the Xibeigang cemetery some 2 kilometers (1.25 miles) northeast of Xiaotun, on the opposite side of the Huan River. The cemetery holds a total of 1,200 graves, but most of them are fairly small. Among them, however, eleven graves stand out because of their size, their shape (notably the sloping ramps), and their contents, although all of them had been looted in antiquity. Eight of the tombs are of a cruciform plan, with a ramp sloping down into the burial pit on each of the four sides. The others have one or two ramps only. The largest tombs are 10–11 meters (35–40 feet) deep, with ramps as much as 40 meters (130 feet) and more in length. The burial chamber was a wooden structure built in the center of the burial pit; it could be either rectangular or could itself be cruciform in plan, mirroring the shape of the tomb. The woodwork is not preserved, but impressions of intricate wood carving were found on a clay surface in one of the tombs, and another had fragments of red and black lacquer. These small clues suggest that the tombs' chambers were richly decorated and brightly colored.

Of the tombs' contents, only the vestiges left by the robbers survive. These include stone sculptures, carved jades, and bronze weapons and vessels. One

tomb had a stash of over 500 bronze helmets, halberds, and spearheads at the foot of one of the ramps. Another tomb had eleven rows of headless corpses, fifty-nine in all, laid out on the ramp. Human sacrifices were also found below the base of the tomb pit and in the step cut into the sides of the pit, level with the top of the wooden chamber. In death, as in life, the Shang elite were surrounded by the bodies of humans sacrificed to the ancestors—as many as 600 beneath one Xiaotun house alone, 164 in a single Xibeigang tomb.

Who was buried in the large graves at Xibeigang? They are probably the graves of the eleven Shang kings recorded as having ruled from Anyang. (The twelfth and last king, Di Xin, was excluded from the reckoning since his body had been burned by the Zhou conquerors in 1046 B.C.) The only definite queen's grave (indeed the only incontrovertibly royal grave) is located not at Xibeigang but at Xiaotun to the east. Though much smaller than the Xibeigang tombs, it had never been plundered. When excavated by Chinese archaeologists in 1976 it proved to contain 7,000 cowrie shells, 590 jades, and 440 bronzes, as well as items of bone and stone (Figure 6.4). This serves to remind us how much has been lost from the Xibeigang tombs. Sixty items from the grave bear the name of Fuhao, one of the sixty-four recorded wives of King Wu Ding, who reigned during the thirteenth century B.C.

Writing and Society

Though most of our information about the Shang period comes from archaeology, in Late Shang times (when Anyang was the capital, c. 1300–1250 B.C.) written sources become available in the form of oracle bones. These enable us to investigate (among other things) the nature and extent of the Shang state.

Oracle Bones

Divination was an integral feature of Shang ritual from the outset and was used by rulers to put questions to the ancestors, who, in turn, were thought to intercede with the gods. It was by no means a new feature; oracle bones had been used in Mongolia as early as 3700 B.C. and are a common find at Longshan sites. But unlike their predecessors, the Shang oracle bones carry inscriptions.

Chinese scholars estimate that there are around 100,000 pieces of inscribed oracle bones in existence, either in China itself or in Japanese or Western collections. (There are also large numbers of fakes.) Most, if not all, come from Anyang. In addition to oracle bones made from cattle shoulder blades, the Shang also used the lower shells of freshwater turtles for divination. The technique in both cases was to cut rows of oval cavities about a centimeter (0.5 inch) across in the back face and apply heat to the cavities by means of a heated metal rod. The resulting pattern of cracks on the front face of bone or turtle shell was then interpreted by a diviner.

The process becomes clear to us through the inscriptions. These always give the date and the question that was being asked of the ancestors. Sometimes they also record the interpretation of the cracks and finally (more rarely) the actual outcome, that is, whether the divination was borne out by events. The following is an example from the reign of King Wu Ding:

> *Day Gui Si, divined.*
> *Ke inquired: No ill fortune during the xun? [the Shang ten-day week]*
> *The king prognosticated and said: There will be bad fortune. There will be trouble that will be inflicted, arriving three times.*
> *Five days later on day Ding Yu, trouble was indeed inflicted, from the west. Zhi Mu stated that Tu Fang reached the eastern border region and inflicted casualties on two towns. Gong Fang also came to graze in our fields in the western border region.*
>
> (Chang, 1980, p. 256)

The oracle bones were, of course, far from being the only writing produced by the Shang. Inscriptions cast on bronze vessels also survive, though they are rarely more than fifty words long. Most Shang writings must have been on perishable materials such as strips of bamboo or rolls of silk. Confirmation of this comes from the script itself: The Shang character *ce,* meaning “a book,” is a pictograph of wooden or bamboo strips tied together with strings. We do not know quite when the Shang script first came into use. We have already seen how writing of some kind was developed in the east and southeast of China by the Liangzhu and Longshan cultures during the late third millennium B.C. Neither of these bears close resemblance to the later

Shang script, however, and whether they are connected in any way remains to be established.

The purpose for which the earliest Chinese script was developed remains subject to debate. Some scholars argue that the medium is misleading, and that had writings on perishable materials survived, as well as those on oracle bones and tortoise shells, then the apparently ritualistic focus of the script would be greatly broadened to include more mundane subjects. Others, however, argue that the intrinsic character of the Chinese script indicates that it was invented to serve a particular ritual use—for communication with the ancestors. The oracle script characters are logographs, recording spoken sounds, not ideographs conveying ideas or concepts. Thus, they were probably written as they were spoken aloud, to commemorate and record particular ritual events. As Shang specialist David Keightley (1996, p. 75) suggests, "Just as the living heard the sounds of their ancestors in the divination cracks, so did Chinese characters provide the means to hear the sounds of the original words, bringing those words, as it were, back to life." Keightley links the development of the elite code of writing to the complex coded symbols carved on jades or cast on bronze vessels, and he sees it as part of a long-standing Chinese tradition of art and representation. The controversy about the origins of Chinese writing provides an excellent example of the tension between generalizing arguments that seek underlying similarities between early state societies in different parts of the world, and more particularist views that consider each society the unique product of its own social and ideological circumstances.

Whatever the case, the new Shang script was no doubt used to record events, to keep accounts, and to issue instructions, and it became an essential instrument of government. The writing system was so effective, indeed, that it endured in much modified form to become the foundation of modern Chinese scripts.

State and Society

Though much of their information is by its very nature indirect, the oracle bones can throw light on military campaigns, political alliances, and the structure of the Shang state. One of the biggest questions is the extent of territory the Shang controlled. This is hard to answer, but the oracle bones do help since they refer to named places that can still be identified. They divide

the Shang into two zones: an inner “capital” and an outer “domain.” The capital is thought to be the area around Anyang itself, extending perhaps 160 kilometers (100 miles) to the south. The domain lay beyond that and may have included not only the Shang homeland but also allied states.

The Shang realm was clearly much smaller than the Shang cultural sphere. The latter is defined by characteristic Shang-style bronze ritual vessels, which were used both by the Shang themselves and several of their rivals. The question is given added importance by the discovery of a Shang-style walled center at Panlongcheng in the Yangzi valley. It is possible that at some periods Shang control did extend as far south as this. At other times, however, erstwhile allies became deadly enemies in a pattern of shifting alliances.

The Shang state itself, centered on the king and the royal lineage, was essentially feudal in nature. Local lords swore fealty to the Shang king but sometimes were still at war with one another. Much of the outer domain referred to in the oracle bones was probably under the control of semiautonomous lords.

The oracle bones also tell us something about warfare in the Late Shang period. They refer to squadrons of chariots, each vehicle carrying a driver, a halberdier, and an archer. The chariot itself was not an independent Shang invention (unlike writing or bronze metallurgy) but had reached China from the Near East by transmission across the steppes of Central Asia. It first appeared around 1300 B.C., and examples turn up in graves at Anyang. Chariots were for the elite and must have been little more useful in real warfare than they were in Mycenaean Greece or the Bronze Age Levant (see Chapter 10). The ordinary soldiers, grouped into units of 100 men, fought on foot with bows and arrows or halberds mounted on the ends of long poles.

The Shang Countryside

Beyond the great mega-centers, such as Zhengzhou and Anyang, the people of the Shang realm lived in modest-sized villages, such as that recently excavated at Guandimiao in Henan province, only 18 kilometers south of the Yellow River. Despite its small size, with only 22 small circular and rectangular houses accommodating perhaps 100 inhabitants, Guandimiao was not simply a rural farming settlement but specialized in the production of pottery: No fewer than 23 semi-subterranean pottery kilns have been found at

the site, together with the debris of pottery manufacture. Next to each kiln was a pit for preparation of the clay, and water was provided by a series of thirty-two wells, an unusually large number for such a small site, and testimony again to its specialized role. The faunal remains from Guandimiao were dominated by cattle, and in addition to pottery, the villagers may also have specialized in the raising of cattle for consumption by the Shang elite in the large metropolitan centers. Connections with distant Anyang, 200 kilometers to the north, are also suggested by highly crafted bone tools that were probably manufactured in the workshops there. Guandimiao was hence an integrated part of the larger Shang economy.

Guandimiao also throws light on ritual practices at the village level. There were over 200 burials, some of them clustered in a cemetery on the eastern side of the settlement, the others scattered among the houses. More interesting was the discovery of seventeen sacrificial pits, containing dismembered remains mostly of cattle but also of pig and occasionally humans. Thus, human sacrifice appears not to have been restricted to the royal Shang centers. Nor was the practice of divination, since one of the pits contained a turtle plastron and a cattle scapula used for oracle bone divination. This snapshot of life at the local level is an important counterbalance to the image of the Shang world provided by the large walled centers, richly furnished tombs, and elite palace complexes.

Ritual Bronzes: Technology and Meaning in Shang Society

One of the most distinctive features of Shang civilization was the production of elaborately decorated ritual vessels, manufactured from cast bronze. They followed and expanded on the shape of ceramic forms of the Longshan period and made use of the high-temperature kilns developed for high-quality Longshan pottery. Metalworking, too, had its origin in the Longshan period. The techniques used by Shang bronze workers far surpassed anything seen earlier, however, and laid the foundation for a continuing Chinese tradition of sophisticated bronze metallurgy (Figure 6.8).

Figure 6.8 Shang ritual vessels. (a) Diagram of food vessels, wine vessels, and water vessels with names. (b) Close-up of the animal-mask *taotie* motif.

Food vessels

ding

fang ding

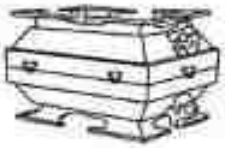
li

xian

gui

yu

xu


fu

dui

dou

Wine vessels

jue

jiao

jia

he

gu

zhi

zun

lei

pou

hu

you

fang yi

guang

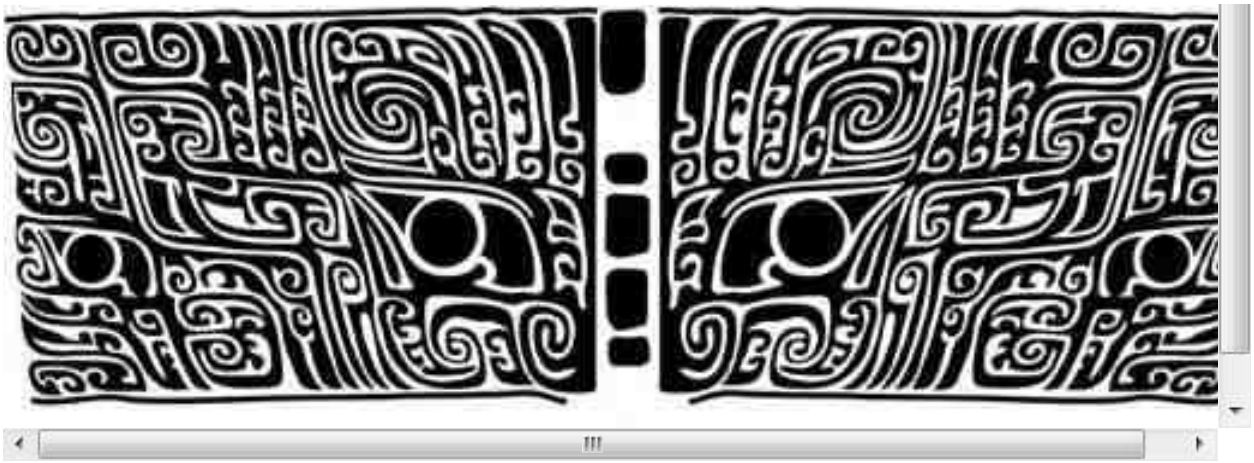
Water vessels (the yu is sometimes included in this group)

yi

pan

jian

(a)



Shang craftspeople made their bronze ritual vessels by using large ceramic piece molds composed of separate pieces of pottery carefully designed to fit tightly together. One of the striking features of the ritual vessels is the richness of surface decoration, formed by intricate shallow channels or low relief. In the Shang piece-mold technique, most of the decoration was carved on the ceramic molds, and thus cast in place when the molten bronze was poured in. Only minor finishing was needed at a later stage, when the vessel had cooled. This whole process was in strong contrast to the methods used for making metal vessels in Bronze Age western Asia and Europe. There, casting was used for small items such as daggers and axes, but large forms like open vessels were made by hammering and riveting sheets of bronze.

Apart from their technology, two other aspects of Shang bronze ritual vessels are worthy of particular note. The first is their decoration. The most regular element was the so-called *taotie* motif. This is a fantastic animal mask or face, split symmetrically on either side of a vertical line or casting seam and laid out flat along the sides of the vessel. Eyes, eyebrows, and sometimes fangs can clearly be seen. The face motif was not a Shang innovation: It first appears on jade objects of the Neolithic Liangzhu culture. Nor did it end with the overthrow of Shang rule. The *taotie* continued to be a standard feature of Chinese bronzes in the subsequent Western Zhou period (1046–771 B.C.).

The second notable feature of Shang ritual bronzes is the restricted range of shapes. Shang craftspeople did not make their vessels to just any shape that came to mind. Instead, they followed a precise typology of shapes, each of which had its own name and was intended for a particular function. Thus, vessels for food included the *ding, fang ding, yu,* and *gui.* For wine drinking there were the *jue, jiao, gu,* and *fang yi,* among others, while water vessels

included the *yi, pan,* and *jian.* This highly regimented scheme gives us a clue to the meaning and importance of the bronze vessels. Shapes, decoration, and uses were ritually prescribed, and possession of these vessels was one of the key criteria for claiming and maintaining an elite rank. Inscriptions cast onto similar vessels of the Zhou period show that they were usually dedicated to the ancestors, and they were probably used in banquets held to show respect for the ancestors. It was through these very same ancestors that high-ranking families asserted their right to elite status.

A third feature of Shang ritual bronze vessels is their restricted production. They appear to have been produced at first only at the primate centers of Erlitou and Zhengzhou, which distributed these powerful symbols of religious authority to other parts of their domain and to neighboring polities. It was only in the late Shang period, when central authority began to break down, that regional centers began to produce ritual bronze vessels of their own.

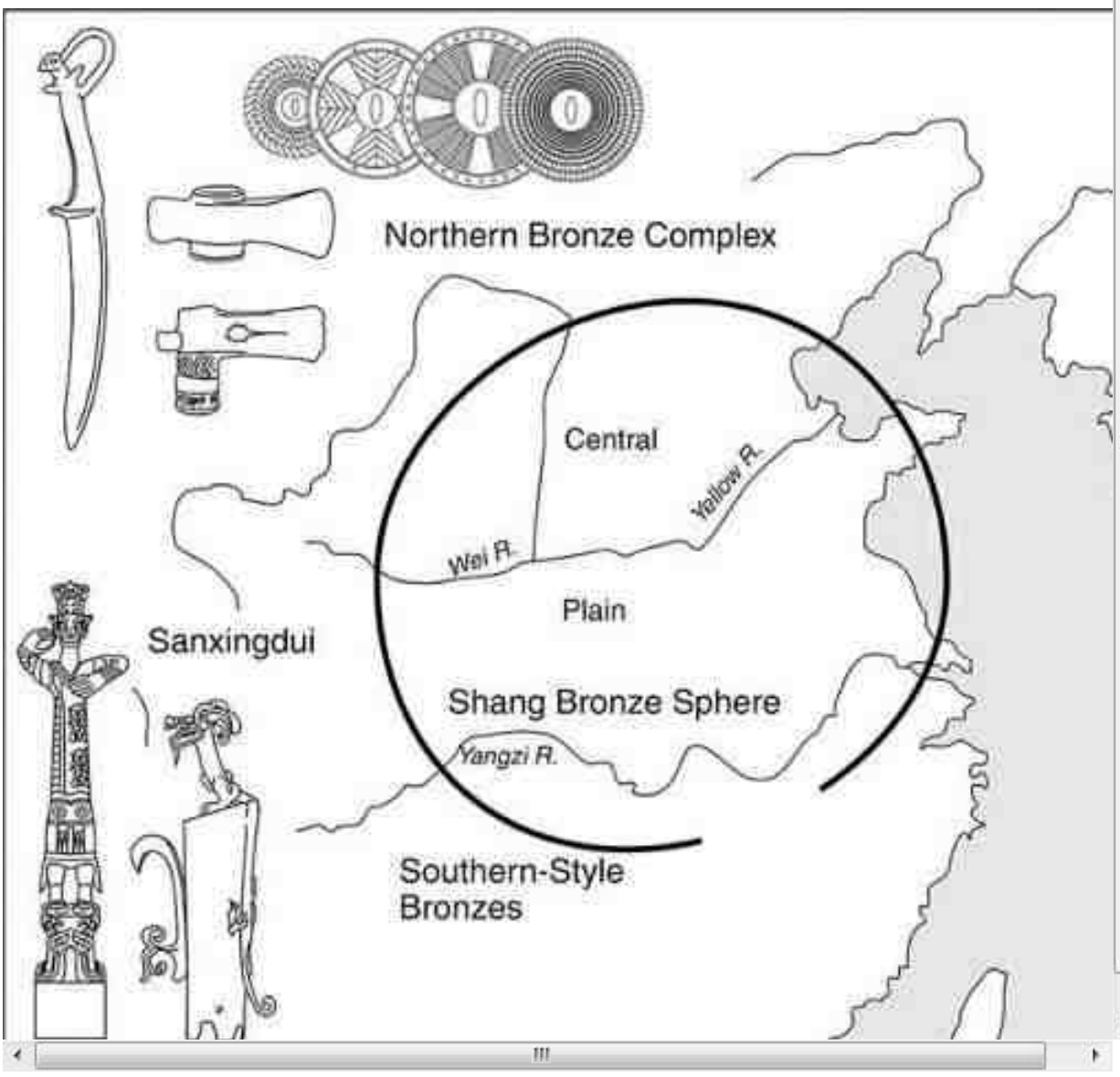
BEYOND THE SHANG: BRONZE AGE TRADITIONS IN OTHER REGIONS OF CHINA

Archaeological and historical evidence show that the Shang was the most important early civilization in China. In geographical terms, however, it is essential to remember that the Shang state covered only a small area of northeastern China. Shang culture—especially the use of the characteristic bronze vessels—extended far beyond the confines of the Shang state. It was adopted by many states and peoples that were actively their enemies, notably the kingdom of Zhou to the west, which invaded and overthrew the Shang dynasty in 1046 B.C.

Beyond the zone of Shang bronzes were the independent bronze-working traditions of western, northern, and southern China. Whereas the Shang bronze output was very much focused on the production of ritual vessels, as symbols of social and political control, in the northern zone the bronzes were predominantly weapons, tools, ornaments, and horse or chariot fittings. In the south, along the middle and lower Yangzi, bronze bells and other musical instruments feature prominently, while in the Southwest, along the upper Yangzi, the objects produced are symbolic and representational, depicting animals and humans, and even cultic scenes. These different traditions underline the point that the Shang was only one of a number of regional

bronze-working cultures in Bronze Age China. Recent discoveries have shown that some of these were not merely regional metalworking traditions but also the centers of independent states. This conclusion has revolutionized our understanding of Bronze Age China, which is now seen, not as a Shang zone surrounded by a halo of derived and dependent cultures, but as a multicenter pattern comprising several cultures of equal or near-equal status (Figure 6.9).

FIGURE 6.9 Map of Shang period bronze traditions.



In the northern zone, excavations at Zhukaigou in Inner Mongolia, just within the bend of the Huanghe, have revealed a sequence of layers that spans the period from the late third millennium B.C. to the mid-second, parallel to the period from late Longshan to Middle Shang further south. The sequence is especially interesting for the light it throws on relations between peripheral areas and the Shang elite culture. In the third millennium (phase I), the Zhukaigou site belonged to just one of several northern Chinese Longshan-related groups. Metalworking started around the beginning of the second millennium B.C. (phases II and III), but it was in the middle centuries of the second millennium that specific features of Shang culture appeared. This began in Zhukaigou phase IV, with the adoption of dog sacrifice (an elite Shang custom) and drilled and polished oracle bones (though undrilled oracle bones had already been in use for some time). The big change came in phase V (c. 1500 B.C.), when bronze ritual vessels and weapons of classic Shang style appeared in the graves at Zhukaigou. Alongside these were other bronzes, of a kind already familiar in the steppe lands to the north. What seems to have occurred was the emergence of a local elite, who were drawing on products (notably metalwork) of established elites in adjacent areas to prop up their new-found status. When Chinese archaeologists analyzed the bronzes more closely, they found they had been made locally, with different proportions of tin, copper, and lead than contemporary bronzes of the Shang heartland. Zhukaigou does not therefore indicate an extension of Shang power but rather the adoption of Shang status items by an emerging elite in a peripheral region.

North of Zhukaigou is the area of the Northern Bronze Complex, on the edge of the steppe zone, with such typical products as circular mirrors, curved knives, and socketed battle-axes. This was an independent bronze-working tradition, unrelated to Shang but owing much to the cultures and technologies of the Eurasian steppes. Products of the Northern Bronze Complex appear, as we have seen, alongside Shang bronzes at Zhukaigou, illustrating the position of the latter at the intersection of Shang and steppe traditions.

The cultural traditions of the southern zone are represented by a richly furnished tomb at Xingan in Jiangxi province, south of the Yangzi River. This tomb has been dated to the thirteenth century B.C., and it is the second-richest Bronze Age tomb ever to have been found in China, surpassed only by the Fu Hao tomb at Anyang. Among the contents are 356 pottery vessels,

50 bronze vessels, 4 bronze bells, over 400 bronze weapons and tools, and 150 carved jades. Some of the bronzes are similar to Shang types, with *taotie* masks as decoration. Other bronzes and some of the carved jades are in a local style, without parallel in the Shang heartland. We should remember, too, that in this same region craftspeople of the Liangzhu culture had been carving *taotie* motifs on ritual jades over a thousand years before. Here again, the traditional primacy of the Shang civilization has to be called into question. Shang may have been the most important elite culture of early China, but it certainly was not the only one.

Twenty kilometers (12.4 miles) from Xingan is the settlement site of Wucheng, with evidence of bronze working and writing. It now seems that Wucheng was the center of a regional state contemporary with the Shang to the north. Its rulers were buried in richly furnished graves in the surrounding area.

In southwestern China, excavations by Chinese archaeologists at Sanxingdui have provided fascinating insights into a very different cultural tradition. Here they have found an early city site with a substantial defensive wall of rammed-earth construction, enclosing an area of 1 square kilometer (0.4 square mile), and the remains of buildings within. This is far from the Shang heartland, in an area that historical sources refer to as the kingdom of *Shu.* Within the city wall, the archaeologists discovered two rectangular sacrificial pits, 30 meters (98 feet) apart, filled with bronzes, ivories, and jade. The deposit in pit 2 was covered by a layer of no fewer than sixty charred elephant tusks. These finds have been divided into two categories: group A, consisting of bronze ritual vessels and other objects in Shang style, and group B, objects in a hitherto unknown style with a particular emphasis on the human form. Specialists propose that the group A objects were imports from the Shang cultural area, but the group B objects were clearly locally made and testify to another non-Shang cultural tradition. As American archaeologist Katheryn Linduff has argued, “Even the briefest look at Sanxingdui confirms that this was a culture with technological sophistication, social and religious complexity of the sort thought previously to have existed only in the Central Plain” [the Shang heartland] (Linduff and Yan Ge, 1990, p. 513). It was very likely the predecessor of a regional state, culturally and politically independent from the Shang.

The importance of these discoveries is that they allow us to put the Shang civilization in its broader Chinese context. Shang culture—especially the

ritual vessels—clearly enjoyed great prestige among neighboring non-Shang elites. These were not simply poor relations of the Shang, however, but powerful regional groupings with their own cultural traditions. Some of them were state-level societies in direct competition with the Shang. Many of their traditions continued into the first millennium B.C. and contributed to the rich and varied cultural life of the historic kingdoms of the Zhou period.

The discoveries at Sanxingdui are leading to a radical reassessment of the Chinese Bronze Age, with the recognition that Shang was not the only powerful cultural tradition. We are now beginning to envisage a multicenter model of Chinese state formation, in which the Shang is only one of several major players.

THE WESTERN ZHOU (1046–771 B.C.)

In 1046 B.C. the last Shang king was overthrown by one of the rival states to the west, the Zhou. Though in historical terms this was a sharp dynastic break, archaeology shows considerable continuity in many aspects of Shang and Zhou culture. The Zhou had already fallen within the zone of influence of Shang material culture before the conquest. Zhou ritual bronzes followed Shang styles and were probably associated with similar beliefs and practices. Many of these bronzes started to carry inscriptions, recording special events or ceremonies. Some commemorated gifts of land from the king or the investiture of a particular official. A famous example is the Xing Hou *gui*, a four-handled bronze basin that the marquis of Xing had cast to commemorate the king’s gift to him of control over three peoples. The inscription offers his thanks to the king and reaffirms his loyalty.

Both the Xing Hou *gui* and historical records show that the structure of the early Zhou state was similar to that of the Shang, with the king granting lands and office to lords and retainers in return for their loyalty and service. There does seem to have been some measure of greater centralization, however, since the Zhou realm was both larger in size than that of the Shang and comprised many fewer separate states (only fifty or so, compared with the hundreds reputedly controlled by the Shang dynasty).

Early Zhou urbanism and architecture also reflected Shang traditions. “Urban” centers, such as the Zhou capital at Qishan, remained a cluster of sites around a central palatial complex. Like the Shang, the Western Zhou rulers used oracle bones and lived in palaces of timber-frame construction

raised on rammed-earth platforms. Monumentalism was beginning to creep into Western Zhou architecture, however: Timber posts were spaced in rows as much as 5.5 meters (18 feet) apart, indicating enormous roof spans, and ceramic tiles were used in place of thatch for roof coverings.

The Zhou capital remained at Qishan until 771 B.C., when raids by nomads from the north forced the rulers to move east, to the more sheltered location of Luoyang. This move is the basis of the traditional division of the Zhou period into Western Zhou (1046–771 B.C.), when the capital was at Qishan, and Eastern Zhou (771–256 B.C.), when the Zhou kings ruled from Luoyang. In archaeological terms, as we have seen, the Western Zhou period is very much a continuation of the Shang. During the Eastern Zhou, however, significant new developments began to take place: ironworking, compact cities, coinage, and markets. These mark the opening of a new phase in Chinese developments, leading toward the establishment of the first Chinese empire, as we see in Chapter 14.

Summary

Bronze Age China was home to a number of civilizations. The most famous was that of the Shang, which takes its name from the dynasty who ruled in the middle valley of the Huanghe (Yellow River) in northern China during the second millennium B.C. The formative stages of this state-level society lay in the elite traditions of the Late Neolithic Longshan phase (2800–1800 B.C.), although some elements can be traced to the earliest farming villages of the seventh and sixth millennia B.C. The Shang civilization (from 1800 B.C.) was characterized by increasingly large mega-centers dominated by palace-temple complexes, and by a heavy investment in the manufacture of ritual bronzes. The earliest decipherable Chinese writing comes from the Late Shang period and takes the form of inscriptions cast on bronze vessels and inscribed on oracle bones, used for royal divination.

In other regions of China, contemporary with the Shang, separate bronze-working traditions developed, some of them associated with state-level societies. These have hitherto received little attention but are coming increasingly to prominence as a result of recent discoveries. They suggest that a multicentered model of Chinese state formation may be more accurate than the traditional Shang-dominated view.

The Shang dynasty itself was overthrown by a rival power, the Zhou, in 1046 B.C.; but culturally, politically, and economically there was little change until the end of the Western Zhou period in 771 B.C.

PART III

Great Powers in Southwest Asia

These broken hills were palaces; those long-undulating mounds, streets; this vast solitude, filled with the busy subjects of the proud daughter of the East. Now, wasted with solitude, her habitations are not to be found.

—Sir Robert Ker Porter on the ruins of Nebuchadnezzar's Babylon, 1818[1]

CHAPTER 7

Mesopotamia and the Levant (2000–1200 B.C.)

FIGURE 7.0 The god Sharruma embraces the Hittite king Tudhaliyas IV (c. 1237–1209 B.C.) in the rock-cut sanctuary of Yazilikaya near the Hittite capital Boghazköy. Izzet Keribar/Getty Images.

As the sun rose the donkeys were laden once again and the caravan made ready for the next stage of the westward journey. Packs of colored textiles were strapped into place, and the panniers of the valuable annakum ("tin") that had been brought from sources in Afghanistan to Assur, the home city. The annakum had been costly, but the merchants were content as they padded softly along beside their donkeys, thinking of the profits to be made when they arrived at their destination. They had many days' travel ahead of them, first across the level, dusty plains of northern Mesopotamia, then over the Taurus Mountains to the Anatolian plateau. But they had made the journey many times before and knew well the way-stations and inns where they would stop

each night. They were also looking forward to a warm welcome when they reached their goal, the great Anatolian city of Kanesh. For they were carrying not only much-prized commodities for the market but also news and letters from Assur for the thriving Assyrian merchant colony that the king of Kanesh had allowed to be built just below the walls of his city.

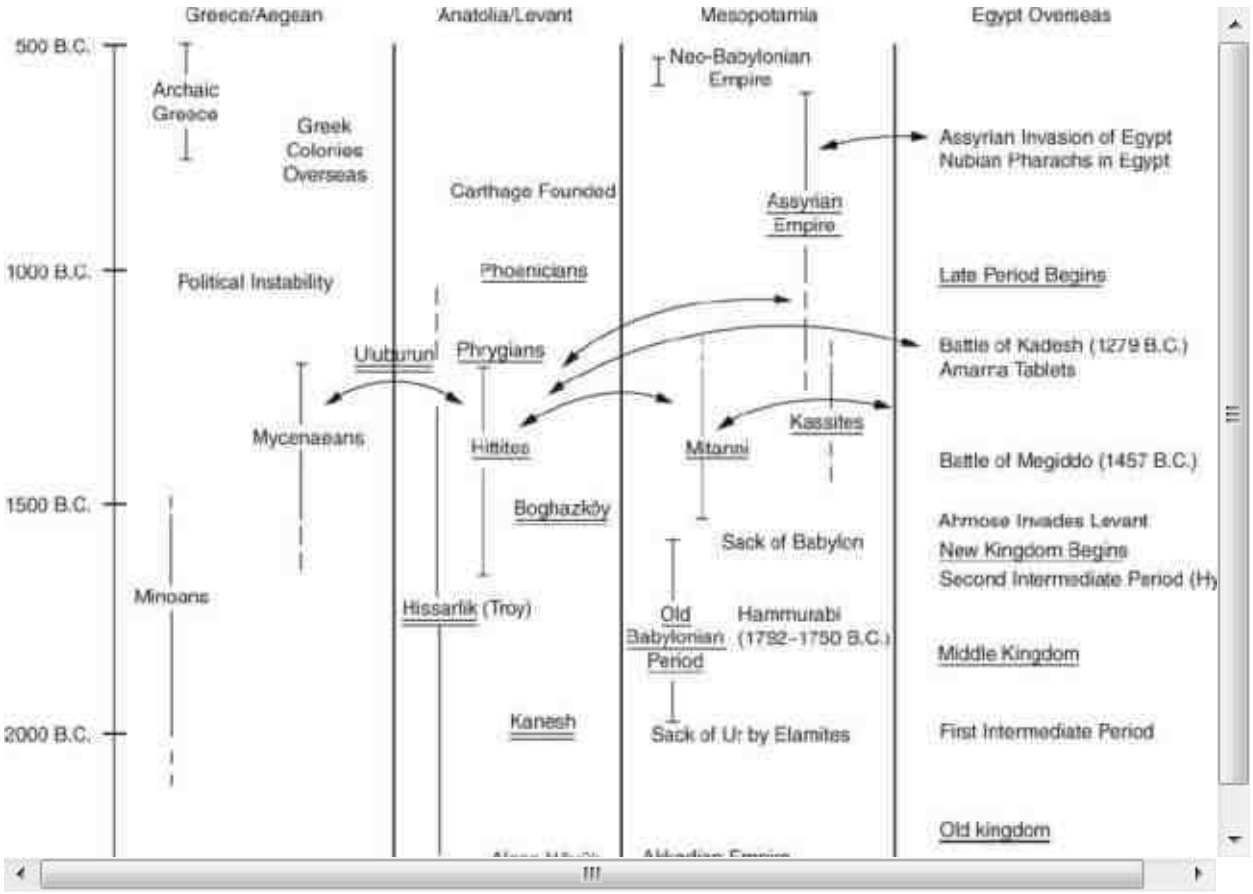
CHAPTER OUTLINE

Bronze Age Cities in Anatolia (2000–1700 B.C.)
- *Alaça Höyük*
- *Kanesh*

The Struggle for Mesopotamia (2000–1800 B.C.)
The World of the Mari Letters (1810–1750 B.C.)
The Emergence of Babylon and the Old Babylonian Period (2004–1595 B.C.)
The Rise of the Hittites (1650–1400 B.C.)
Egypt and Mitanni: War in the Levant (1550–1400 B.C.)
The Hittites in the Levant (1400–1200 B.C.)
The Hittites in Anatolia (1400–1200 B.C.)
Mesopotamia and Iran (1400–1200 B.C.)

In the third millennium B.C., the story of Southwest Asia had been dominated by southern Mesopotamia—the land of Ur and Uruk and the birthplace of writing and empire (see Chapter 3). For the second millennium, described in this chapter, we must broaden the geographical canvas as new regions such as Anatolia take an ever more prominent place in the mosaic of states and peoples (see Table 7.1).

TABLE 7.1 Chronological table of later Southwest Asian kingdoms 2500–500 B.C.



BRONZE AGE CITIES IN ANATOLIA (2000–1700 B.C.)

This is not to suggest, of course, that Anatolia had been unpopulated or undeveloped before 2000 B.C. We have already seen how, thousands of years earlier, the inhabitants of southern Anatolia had established in Çatalhöyük, one of the first towns. Sophisticated pottery and metalworking soon followed, but it was only in the third millennium that true cities made their appearance.

Alaça Höyük

Two sites of the third and early second millennia B.C. deserve particular mention. The first is Alaça Höyük, a conspicuous city mound in northern Anatolia. (The Turkish word *höyük* is equivalent to Arabic *tell* or Persian *tepe*, all of which mean “a city mound.”) Later in the second millennium B.C., this became an important Hittite city. Today the site is dominated by the massive fortifications and monumental gates of that period. What concerns us

here, however, is not the later city but the tombs that were found beneath it: thirteen richly furnished “Royal Graves.” These took the form of large rectangular pits with burial chambers up to 6 meters (20 feet) long and 3 meters (10 feet) wide at their base. The chambers were lined with stone and roofed in timber and contained the remains of people identified as the early rulers of Alaça Höyük—usually both a male and a female body, though it could be seen that these had not in all cases been buried at the same moment. The “royal” character of the graves is shown most clearly by their rich furnishings: objects of copper, gold, silver, and even iron, which at that time was a rare and valuable metal.

216"The Royal Graves of Alaça Höyük show that already by around 2500 B.C., kingdoms and city-states had begun to appear on the Anatolian plateau. In the absence of written records, however, we are unable to chart the historical development of these kingdoms in any detail. We do know that they were in contact, or were soon brought into contact, with the cities of the Mesopotamian plain. Later legends record that King Sargon of Agade led an expedition into Anatolia against the city of Purushkanda. The exact location of this city is uncertain, but the southern fringes of Anatolia may well have formed part of the Akkadian sphere of influence for a period during the twenty-fourth century B.C. These contacts hastened the formation of larger political units in Anatolia. By 1900 B.C. we have clear evidence of several regional states, one of them centered on the city of Kanesh (see Table 7.1).

Kanesh

Clay tablets from this general area, inscribed with Akkadian script, had begun to turn up on the antiquities market in the 1880s. It was not until 1925, however, that Czechoslovakian philologist Bedřich Hrozný succeeded in tracing their origin not to the city mound of Kanesh itself (where Germans and French had already dug in vain) but to a meadow just over 100 meters (300 feet) beyond the walls. Here he came across the remains of a trading colony inhabited by merchants from the Mesopotamian city of Assur on the Tigris. In all, well over 10,000 clay tablets have now been discovered at the site (Figure 7.1). These record a flourishing trade between the Assyrian merchants of Kanesh and their home base at Assur during the period 1900 to 1750 B.C. The commerce was in the hands of Assyrian merchant families, who shipped tin and textiles by donkey caravan to Kanesh in return for silver

from Anatolia. This, in fact, was one arm of an international trading system, which linked the city of Assur not only with Anatolia but also with Iran (source of the tin), with southern Mesopotamia (source of the so-called Akkadian textiles), and possibly at a further remove with Dilmun (Bahrain) and Oman, a source of copper.

FIGURE 7.1 Clay tablet probably from the Assyrian merchant colony at Kanesh: a private letter from one of the merchants. age fotostock/Alamy Stock Photo.

We learn from these records that Kanesh was only one of ten Assyrian merchant colonies at Anatolian cities. The cities themselves seem to have been independent, each controlling their surrounding area, and not always on

friendly terms. One significant though shadowy historical event was the conquest of Kanesh and its Assyrian colony by Anitta, son of Pitkhana, a neighboring ruler, around 1820 B.C. After his victory and a successful campaign of military expansion in central Anatolia, Anitta transferred his main residence to “Nesa” (Kanesh), where a dagger inscribed with his name has been found. Anitta may have been an ancestor of the later Hittite rulers, for the Hittites referred to their own language as Nesili, the language of Nesa.

THE STRUGGLE FOR MESOPOTAMIA (2000–1800 B.C.)

In Chapter 3 we left the story of Mesopotamia with the capture of Ur by the Elamites in 2004 B.C. By that time, the Ur III empire had already collapsed through the secession first of Eshnunna and the far north, then of Susa and the east, and finally of Nippur at the heart of ancient Mesopotamia. Power passed to a new dynasty based at the city of Isin. The rulers of Isin managed to extend their control over much of southern and central Mesopotamia. Isin’s supremacy was short-lived, however, for the south soon fell under the sway of the rival city of Larsa. Other powers then appeared on the scene: Kish in the north; Kazallu in the west; and the city of Babylon, which by 1800 B.C. had conquered its nearest rivals and was poised to advance on both Isin and Larsa.

The rivalry of Isin and Larsa has been given an archaeological dimension by American-led investigations in the late 1980s at Tell Abu Duwari, site of the ancient city of Mashkan-Shapir, due east of Babylon and not far from the modern course of the Tigris River. We know that Mashkan-Shapir was an outpost of Larsa, and its location suggests that it was founded for a special strategic purpose. Isin had one big advantage in its struggle with Larsa: Both cities lay on the Euphrates, but Isin was further upstream and could prevent supplies of traded materials from reaching Larsa by the river route. Mashkan-Shapir was Larsa’s response, a new city north of Isin but linked to the Tigris rather than the Euphrates. By founding Mashkan-Shapir, Larsa aimed to sidestep its rival and secure an alternative supply route for essential raw materials from the north.

For archaeologists Elizabeth Stone and Paul Zimansky, Mashkan- Shapir had one outstanding recommendation: It was so short-lived (occupied for only 200 years) that it hardly had time to form a tell. Many features of the city were therefore visible on the surface. They set out to map these surface

features, using a combination of field walking and aerial photography (a collection of 1,600 photos taken by a kite-mounted camera). From their results, Stone and Zimansky have estimated that no fewer than 30 million potsherds litter the surface of the site. They were able to map a network of canals that cut across the city area, separating it into five districts, and broadening out into two wider areas of water identified as internal harbors. Many of the major buildings faced onto canals rather than streets, emphasizing the importance of water transport. There were also copper-working areas, pottery kilns, and a religious quarter in the southeast sector, the whole enclosed within a mud-brick city wall. These results give us a unique insight into the layout of a south Mesopotamian city at the beginning of the second millennium B.C.

This period of political and military uncertainty was a time of flourishing trade in the Persian Gulf. Already in the third millennium merchants from southern Mesopotamia had been bringing copper from Oman. Sargon of Agade in the twenty-fourth century boasted how ships from Oman, Bahrain, and the Indus Valley tied up at his quaysides (see Box 7.1). The Gulf trade seems to have reached its peak, however, in the early second millennium, when the kings of Larsa controlled the southern outlets of Mesopotamia. It was the southern counterpart to the flourishing Assyrian trade with Anatolia, and like that trade was in the hands not of state or temple but of wealthy merchant families. The object, as always, was to supply the populous cities of Mesopotamia with the valuable raw materials that they lacked, notably metals, hard stone, and timber.

Box 7.1 Sites *The City of Saar and the Dilmun Trade*

The island of Bahrain, ancient Dilmun, was a crucial trading center in the commercial networks that linked southern Mesopotamia with the Indus Valley. It seems to have reached its greatest importance during the so-called Early Dilmun period (2300–1700 B.C.). The prosperity of the Dilmun merchants was founded largely on their monopoly of the copper trade from Oman and the Indus Valley. This prosperity led to the establishment of several new towns in the northern part of the island, including Saar, where archaeologists began excavating in the 1980s. Around 2000 B.C., Saar was a town of stone houses fronting onto regular

streets. The walls are still preserved in places to a height of 3 meters (10 feet). In the northern sector stood a temple with a central row of columns to support the roof and two altars—one against a column, the other against a side wall. The side altar had been replastered several times, and where the plaster had fallen away there were burned fish scales, indicating that fish must have been among the offerings made here. At the time Saar was on the edge of a coastal inlet. Judging from circular sealstones used for stamping impressions, many of its inhabitants were involved in the trade, which was the island's lifeblood. Similar sealstones have been found as far afield as Kanesh in Anatolia and the Indus Valley. Indeed, some Early Dilmun seals are actually inscribed with characters of the mysterious Indus script, and the Indus weight system appears to have been in use on the island. There could be no better illustration of the cosmopolitan nature of Bahraini society in the early second millennium B.C.

A main beneficiary of the Gulf trade was the island of Bahrain (ancient Dilmun), which had few raw materials of its own but acted as intermediary and entrepot (market) for traders from Mesopotamia and further afield. The international trade links of Bahrain at this period are shown by the discovery there of weights of the Indus Valley type, and one Gulf-style stamp seal has turned up at the Indus port of Lothal. Further light has been thrown by excavations at the site of ancient Saar on Bahrain.

THE WORLD OF THE MARI LETTERS (1810–1750 B.C.)

While the city-states of southern Mesopotamia were fighting among themselves, important new developments were taking shape in the north. One was the rise of Assur, a city whose merchants, as we have already seen, were active in Anatolia. Assur itself became a powerful political force, notably under the great ruler Shamshi-Adad (1813–1781 B.C.). His realm extended from the Zagros Mountains in the east to the Euphrates River in the west, but it collapsed at his death, leaving the field open to rival contenders.

One of the rivals was Zimri-Lim, ruler of Mari on the Euphrates. His father had been ousted by Shamshi-Adad, but after the latter's death Zimri-Lim returned to reclaim his throne. He ruled Mari for over twenty years, until

in 1759 B.C. the city was captured and destroyed by King Hammurabi of Babylon. The destruction that accompanied this event proved to be an enormous benefit to twentieth-century archaeologists; it preserved Zimri-Lim's great palace under a pile of collapsed mud-brick, including a collection of over 20,000 clay writing tablets, which detail all aspects of court life at Mari from 1810 to 1759 B.C. (see Figures 7.2 and 7.3). The tablets began in the reign of Shamshi-Adad (whose indolent son Yasmah-Addu had been installed as local ruler) and provide an outline of political events in the years that followed. One particularly graphic text—a letter to local tribal leaders—sums up the political conditions in Mesopotamia during Zimri-Lim's reign: "There is no king who by himself is strongest. Ten or fifteen kings follow Hammurabi of Babylon, as many follow Rim-sin of Larsa, Ibal-pi-el of Eshnunna, and Amut-pi-el of Qatna, while twenty kings follow Yarim-Lim of Aleppo."

FIGURE 7.2 Part of a wall painting from the palace of Zimri-Lim at Mari (c. 1760 B.C.) showing a sacrificial scene, restored by Paul François from thousands of tiny fragments. Scenes such as this illustrate ceremonies and events that would have taken place at the palace and demonstrate the colorful decoration that once adorned the main rooms. World History Archive/Alamy Stock Photo.

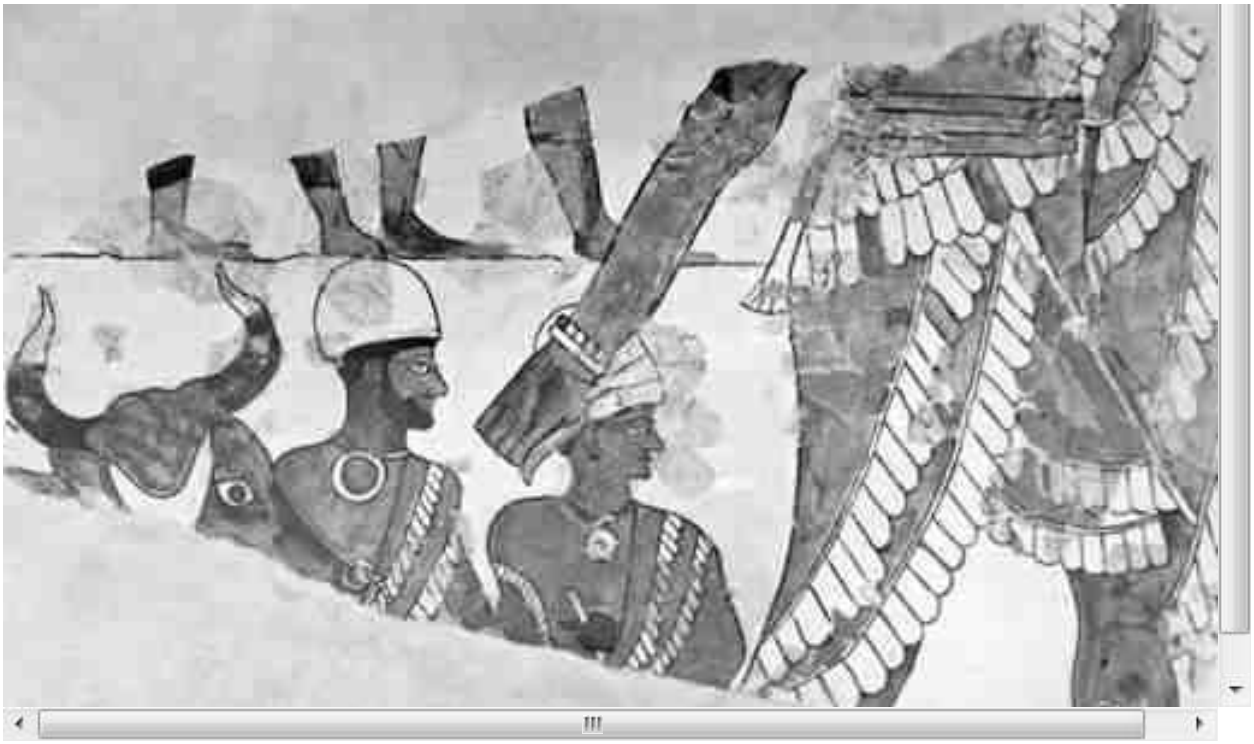
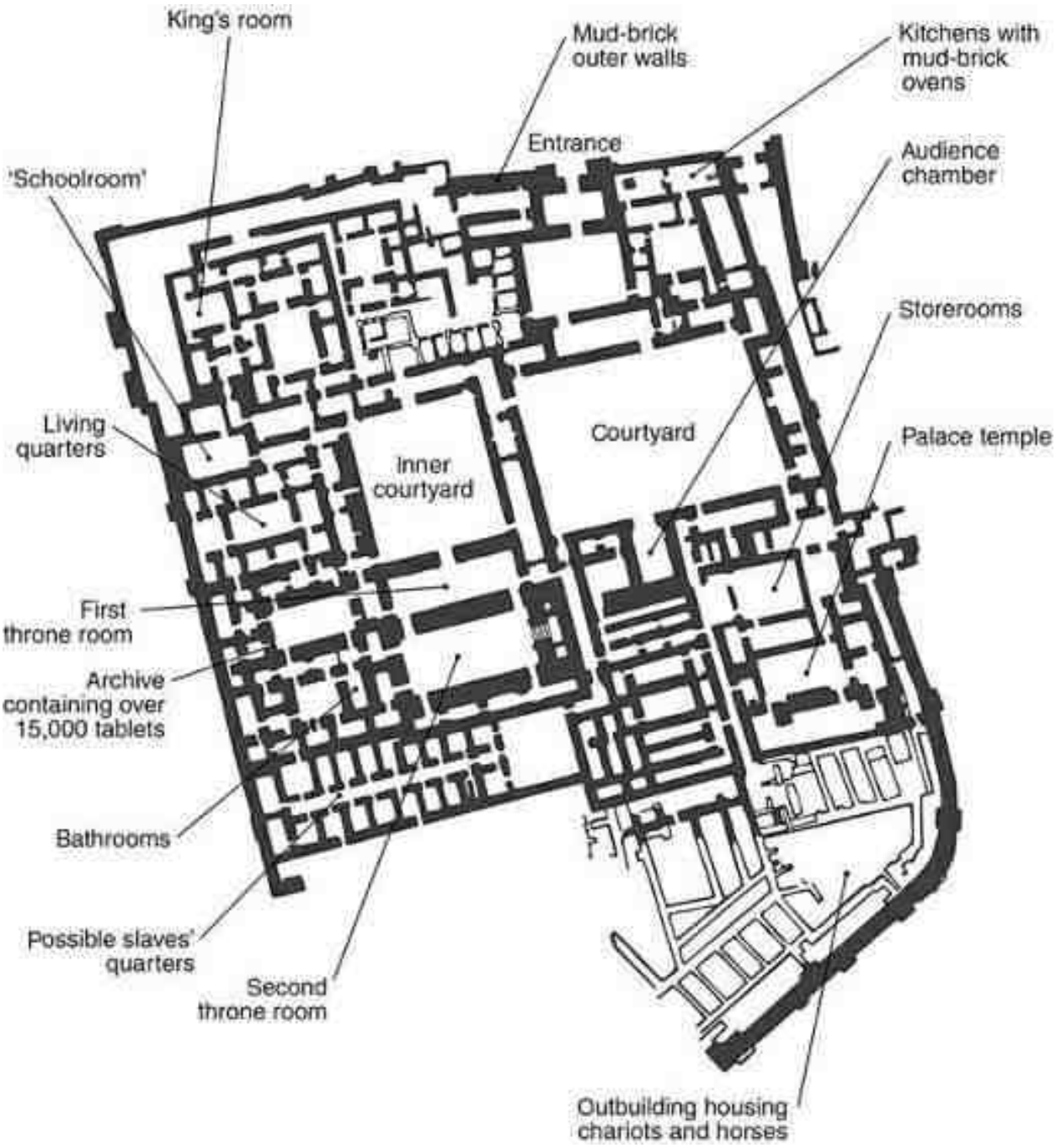


FIGURE 7.3 The palace of Zimri-Lim at Mari. Mesopotamian cities of the third millennium B.C. were dominated by major temples. The king drew much of his power from also being high priest. In the Old Babylonian period, this pattern changed: Royal power became more secular and not so dependent on religious sanction. This trend is reflected in the increased size and importance of royal palaces in cities of the second millennium. Best known is that at Mari, an enormous mud-brick complex covering 2.5 hectares (6 acres) and dating in its present form from the reign of Zimri-Lim (1780–1759 B.C.). Painted frescoes adorned courtyards and principal rooms. There were also storerooms, workshops, and private apartments. One room was an archive, containing over 15,000 clay tablets, which have revealed many details of palace life. They also show Mari as the center of an important kingdom, engaged in war and diplomacy with its powerful neighbors.



This was a game of shifting allegiances and alliances, which ultimately Zimri-Lim lost. There are frequent references to warfare, involving sieges and large armies; on one occasion Shamshi-Adad planned to raise a force of 60,000 men. Other tablets concern food and drink. In one place we are told that a plague of locusts descended on a certain town; the local governor trapped some of them and sent them to Mari as a delicacy. Still more surprising was the building of icehouses in various places. The

Mesopotamian plain is swelteringly hot and dry during the summer months, yet the rulers of Mari managed to collect ice in the winter and store it in these special icehouses for use during the rest of the year. For its time and place, this represented the height of luxury.

The Mari tablets also provide much information on social conditions in and around the royal palace. There were workshops for textiles and metalwork, where male and female prisoners of war were among those employed. The various departments were administered by officials who reported directly to the king; similar officials were placed in charge of dependent territories and were responsible for collecting taxes. The tablets tell us that women did not enjoy the opportunities open to men, but they were not kept in seclusion. Zimri-Lim seems to have had only a single wife, Shibtu, whom he left in charge of affairs at Mari when he was visiting other towns in his dominions or on military campaigns.

The accident that preserved the clay tablets of Mari brought disaster to Zimri-Lim and an end to the city's greatness. For in Hammurabi of Babylon, Zimri-Lim had come up against another formidable Mesopotamian empire-builder.

THE EMERGENCE OF BABYLON AND THE OLD BABYLONIAN PERIOD (2004–1595 B.C.)

The city of Babylon, beside an old branch of the Euphrates in western Mesopotamia, had been a small and unimportant town in the third millennium. Yet during the early part of the second it achieved a position of preeminence in Mesopotamian affairs. As a result, the period from the fall of Ur (2004 B.C.) to the Hittite invasion (1595 B.C.) is conventionally known as the Old Babylonian period. Babylon became important once again in the Kassite period and in the first millennium B.C., notably under the Neo-Babylonian dynasty (625–539 B.C.) (Chapter 8). Here, however, it is the Old Babylonian period that concerns us.

The rise of Babylon was largely the work of one man: Hammurabi. In a reign of over forty years (1792–1750 B.C.) he conquered Isin and Larsa in the south, then Mari and Eshnunna in the north, until he ruled the whole of southern and central Mesopotamia as a single, unified state. This was achieved not by some whirlwind campaign but through a consistent and determined combination of diplomacy and warfare. For example, Larsa did

not fall to his armies until 1763 B.C., Eshnunna, not until 1755 B.C. One of the casualties of these campaigns was the city of Mashkan-Shapir, which lost its strategic importance and was abandoned.

Hammurabi reorganized and centralized the territories under his control, tying large areas of conquered land directly to the crown by overriding the rights of previous owners. This ruthless policy was counterbalanced by the promulgation of Hammurabi's famous law code, proclaiming that the king was a just ruler despite his widespread confiscations (see Box 7.2). Whether any of the code's provisions was actually used is open to doubt; it was largely an exercise in imperial propaganda.

Box 7.2 Voices: *Law Code of Hammurabi*

The most famous monument of the Babylonian ruler Hammurabi is the diorite pillar carved all round with a law code of 282 clauses (Figure 7.4). It was discovered in 1901 at Susa in southwestern Iran, where it had been carried by the Elamites as a trophy. At the top of the stone, Hammurabi himself is shown receiving the laws from Shamash, sun god and god of justice. The laws themselves are not a comprehensive code, but they cover a wide variety of subjects, from ransom of prisoners of war to pledges of land in payment for debts and punishment for adultery. The provisions make clear that Babylonian society was divided into aristocrats, commoners, and slaves; women held a subordinate position, although they were allowed to hold property and could divorce their husbands for maltreatment, provided they themselves were of good character. The following examples illustrate something of the range of subjects covered:

> If fire broke out in a man's house and a man who went to extinguish it cast his eye on the goods of the owner of the house and has appropriated the goods of the owner of the house, that man shall be thrown into the fire. (§25)
>
> If outlaws have congregated in the establishment of a woman wine-seller and she has not arrested those outlaws and did not take them to the palace, that wine-seller shall be put to death. (§109)

If a physician performed a major operation on a man with a bronze lancet and has caused the man's death, or he opened up the eye-socket of a man and has destroyed the man's eye, they shall cut off his hand. (§219)

(Pritchard 1958, 142, 149–150, 162 [slightly adapted])

FIGURE 7.4 The Law Code of Hammurabi, a black basalt stele carved with 282 laws in cuneiform script. The scene shown here at the top of the stele features Hammurabi standing in prayer before the sun god Shamash, the Babylonian god who was also the god of justice; 1792–1750 B.C. Lebrecht Music & Arts/Alamy Stock Photo.

Hammurabi’s kingdom soon ran into difficulties after his death. The habit of political autonomy was still well entrenched in Mesopotamia. Though city-states might be forced to acknowledge an overlord, they did not give up their aspirations to independence and chose the earliest opportunity to rebel. Hammurabi’s successor, Samsuiluna (1749–1712 B.C.), fought a five-year war against Larsa and Uruk. At first he was victorious, but his hold over southern Mesopotamia was weak. By the end of his reign a local dynasty had seized

control. Continuous fighting devastated many cities that had been flourishing centers in earlier centuries. The destruction of Ur, like that of Mari, buried numbers of cuneiform tablets and the mud-brick houses in which they were found by archaeologists. The tablets enable us to identify the occupants, including in one case a merchant active in the Dilmun trade and in another a schoolteacher. The exercise tablets of his pupils were scattered among the ruins.

American archaeologist Norman Yoffee has studied the fall of the Old Babylonian dynasty in an effort to understand its causes. Yoffee maintains that these were embedded in the structure of government that Hammurabi created. His policy of centralization brought wealth to the king, at least in the early days, when the empire was largely intact. But it placed heavy demands on the central administration and generated enormous resentment in the conquered territories. As more and more cities seceded, the government fell into financial difficulties and attempted to offset its losses by exploiting the remaining lands even more thoroughly. Hammurabi's successors appointed many more royal officials, but this simply increased the size of the central administration. Eventually the officials became hereditary local aristocrats, depriving the kings of a further large slice of their dwindling power. The collapse of the Old Babylonian empire, when it came, was thus not so much the result of foreign attack as of decay from within; the central government simply lost the allegiance of its officials and local leaders.

Of Babylon, the capital, little is known at this period since the early levels are deeply buried beneath later deposits and below the water table. It must have possessed a luxurious royal palace, however, and a major temple to the chief god of Babylon, Marduk, perhaps on the site of the later ziggurat. The tablet evidence shows that the Old Babylonian period was a time of literary and scientific activity. The power of the state steadily dwindled, however, as parcels of territory were clipped away by neighboring peoples. The final blow was delivered not by one of these but by a more distant enemy: the Hittites from Anatolia. In 1595 B.C. Hittite King Mursilis I descended on Mesopotamia. Meeting little resistance, he sacked Babylon. With this event the center of power in Southwest Asia moved decisively away from southern Mesopotamia to the north and west.

THE RISE OF THE HITTITES (1650–1400 B.C.)

The Hittites remained one of the most mysterious peoples of ancient Southwest Asia until the present century, when excavations by German archaeologist Hugo Winckler at Boghazköy recovered 10,000 clay tablets from the Hittite royal archives. Boghazköy, which had indeed been the Hittite capital from around 1650 B.C., was known by the name Hattusas. It lay in the northern part of the Anatolian plateau not far from Alaça Höyük, site of the third-millennium royal graves described earlier. Over the four centuries from 1650 B.C. the Hittite rulers turned Boghazköy into a vast fortress-city, sprawling over the rocky terrain, with craggy citadels and elaborate temples (Figures 7.5 and 7.6). It became the center of a powerful empire that covered not only most of Anatolia but also at times extended far to the south, into Syria and the Levant, the narrow coastal strip today divided between Lebanon, Israel, and the Palestinian territories.

FIGURE 7.5 Plan of Boghazköy, ancient Hattusas, capital of the Hittite empire from c. 1650 to 1200 B.C. The Hittites were skilled in fortification and made excellent use of the rocky terrain to strengthen their defenses. On the eastern side is the Büyükkale or Great Citadel, where remains of an imperial Hittite archive have come to light. A major feature of Boghazköy was its many temples within the defensive circuit.

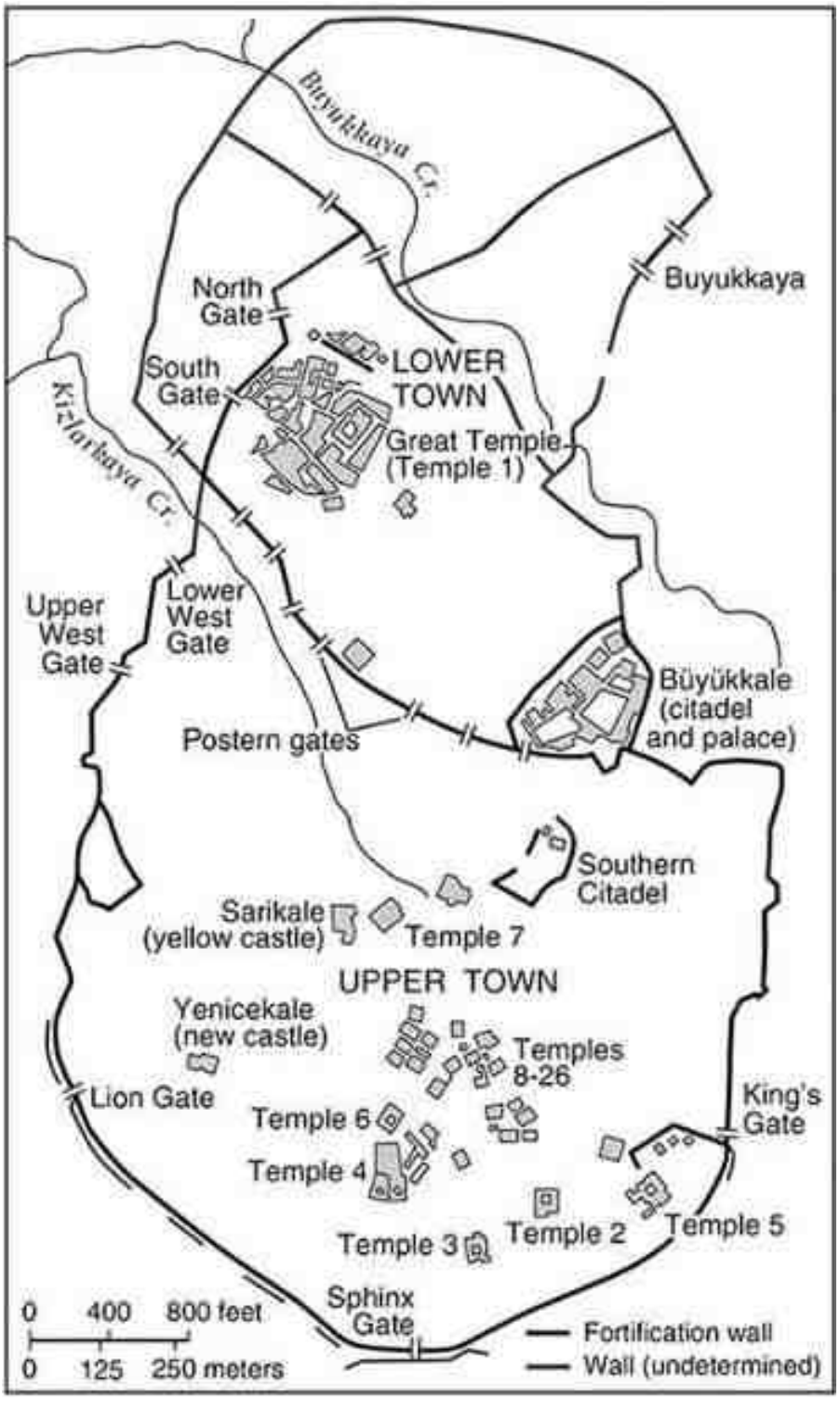


FIGURE 7.6 The Lion Gate at the Hittite capital of Boghazköy, formed by two massive monolithic blocks carved with lion figures

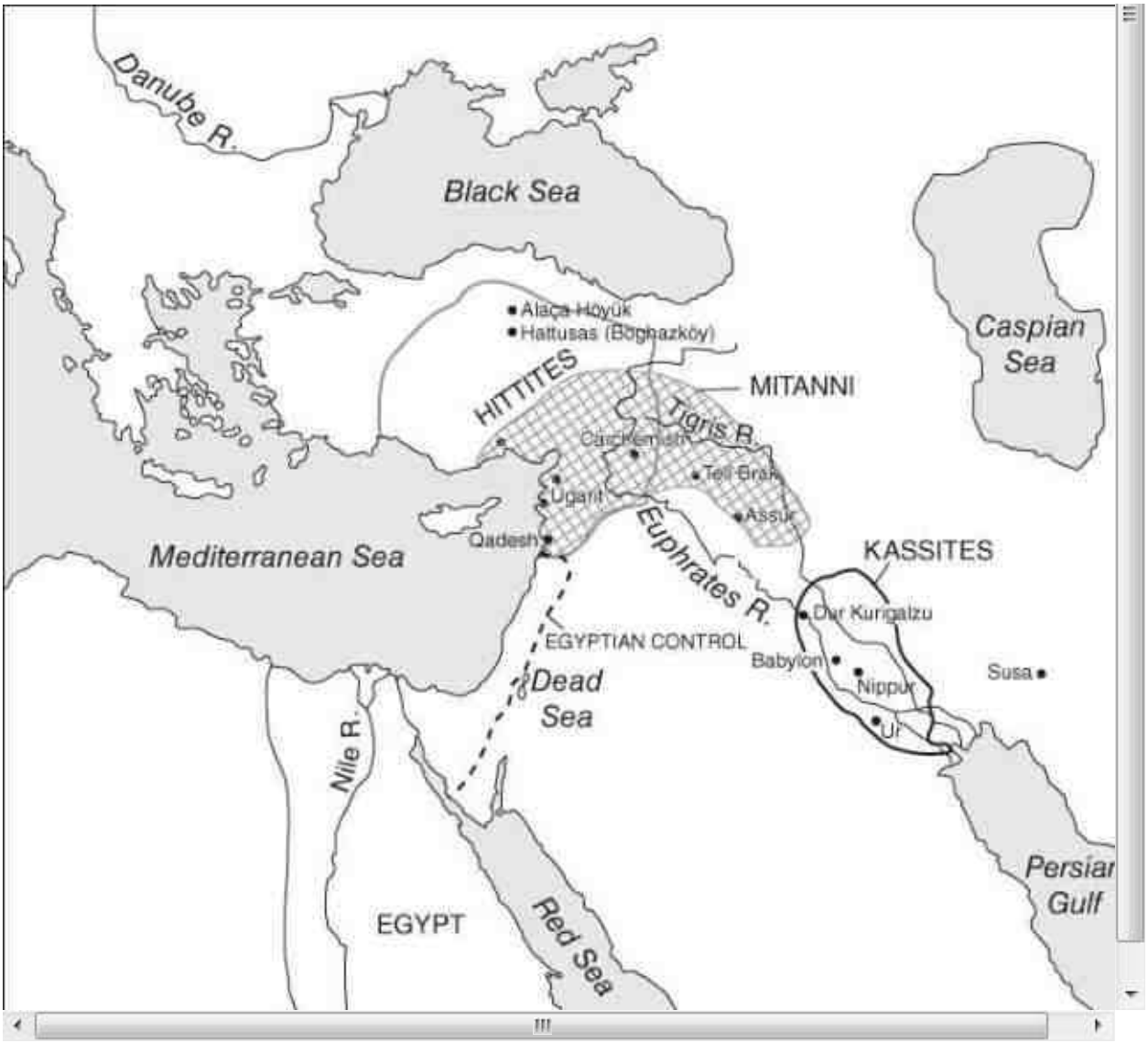
guarding the entrance. funkyfood London/Paul Williams/Alamy Stock Photo.

The Hittites were one of several peoples inhabiting the Anatolian plateau at this time. The tablets found at Boghazköy record no fewer than eight different languages. It is clear that not all of these languages were current in the Hittite heartland in equal measure. They do, however, reflect the polyglot world with which the Hittites came into contact during their imperial expansion. The Hittites first entered history in the seventeenth century B.C. Later tradition told of a King Labarnas, who extended his power from central Anatolia to the Mediterranean coast. It was his son, Hattusilis, who moved the capital to Boghazköy. Hittite armies campaigned vigorously during these years, meeting particularly strong resistance in western Anatolia; although the far west and the mountainous north may have remained unsubdued, the Hittites were widely successful and were soon ready for exploits further afield. Hattusilis himself crossed the Taurus Mountains and reduced the major kingdom of Yamhad (Aleppo) to vassalage. For most Southwest Asian states, however, the bolt from the blue came in 1595 B.C. when Hattusilis’s

adopted son and successor, Mursilis I, marched far to the south in a lightning raid and sacked Babylon. As we have seen, this brought an end to the Babylonian dynasty founded by Hammurabi.

The Hittites did not follow up the Babylon raid since Mursilis was murdered shortly afterward and royal authority collapsed. For almost a century and a half, the princes of the Hittite royal house struggled among themselves for power while the conquests of their predecessors slipped away. Hittite fortunes revived only toward the end of the fifteenth century B.C. when once again a Hittite king was campaigning in northern Syria. The great expansion of Hittite power south of the Taurus Mountains, however, occurred under their most famous king, Suppiluliumas I, who reigned from around 1350 to 1315 B.C. This ushered in the period known as the Hittite empire, but in order to follow these events it is necessary first to introduce the other leading players on the Levantine stage: Egypt and Mitanni (see Figure 7.7).

FIGURE 7.7 Map of Southwest Asia in the mid-second millennium. The kingdom of Mitanni was defeated by the Hittites in the fourteenth century B.C. and became a vassal state within the expanding Hittite empire.



EGYPT AND MITANNI: WAR IN THE LEVANT (1550–1400 B.C.)

The Levant had been a land of cities long before the second millennium. Many of the early cities in the southern Levant had declined or been abandoned in the later third millennium B.C., however, and it was not until the Middle Bronze II period (c. 2000 B.C.) that there was an urban renewal. By the early second millennium, the Levant as a whole was divided up among a number of kingdoms ruled from major cities like Hazor and Qatna. Hazor is a good example of such a city, with a large lower town and a more strongly defended citadel, which probably contained the royal palace. Israeli

archaeologist Yigael Yadin found that the lower town was laid out in the early second millennium and surrounded by a massive earthen rampart built around a mud-brick core. The front of the rampart was steeply sloping and faced with small stones—too steep to scale and too sloping to attack with a battering ram. On top of the rampart was a wall or breastwork of mud-bricks. The city gateways were flanked by square towers of mud-bricks on stone foundations. Similar defenses encircled the citadel or upper city.

The size of these fortifications hints that large-scale warfare was a fact of life in the Levant during the early second millennium. If so, it was largely internecine, for it was only in the sixteenth century B.C. that neighboring states began to interfere in the affairs of the region. It was at this time that a trio of "superpowers" emerged around the fringes of the Levant, each seeking to establish its dominance over the local kings.

First of the trio to campaign in the region was Egypt. The invasion of the southern Levant under Pharaoh Ahmose (1550–1525 B.C.) began as retaliation for the Hyksos domination of Egypt—the Hyksos being peoples of the Levant who had conquered the Egyptian delta (see Chapter 4). What began as retaliation soon turned into imperialism, as subsequent Egyptian rulers campaigned far to the north. Tuthmosis I (1504–1492 B.C.) even reached the Euphrates, and local rulers hurried to swear allegiance to such a powerful monarch, who had the immense resources of Egypt behind him. The problem for the Egyptians was that once their campaigns were over and they went home, the Levantine rulers grew less fervent in their support. Tuthmosis III (1479–1425 B.C.) sought to consolidate Egyptian power in the region by a twenty-year series of military campaigns. In 1457 B.C. he won a great victory at Megiddo. Much of the southern Levant then became an Egyptian dependency. In the north, however, Egyptian ambitions were checked by the development of a rival superpower of northern Mesopotamia—the kingdom of Mitanni.

Mitanni arose around 1550 B.C. when a local ruler succeeded in defeating his rivals and established a powerful unified state. Its center lay east of the Euphrates, in the Khabur plain, but the Mitannian kings soon cast their eyes west and east. In the west, they took control of Syria up to the Taurus Mountains, including territories previously conquered by the Hittites. In the east, they captured Assur and the valley of the upper Tigris, as far as the Zagros foothills.

THE HITTITES IN THE LEVANT (1400–1200 B.C.)

For several decades Egypt and Mitanni pursued a form of proxy warfare in the Levant, fighting each other's allies and dependents rather than attacking each other directly. Then in the reign of Tuthmosis IV (1401–1391 B.C.) they suddenly changed tack and made an alliance because of renewed activity by the Hittites. It was to no avail, however, since a few decades later the Hittite monarch Suppiluliumas defeated and destroyed Mitanni and took over Mitannian territories in the northern Levant. His victory brought the Hittites face to face with the Egyptians.

The history of the Levantine city-states during the fourteenth century is brought vividly to life by the Amarna letters. In 1887 an Egyptian peasant woman accidentally found a collection of clay tablets at the site of Amarna, capital of Egypt under the "heretic" Pharaoh Akhenaten (see Chapter 4). The local people soon sold them to various dealers, and 382 tablets eventually found their way into Western museums. They proved to be diplomatic correspondence from the reigns of Akhenaten (1353–1335 B.C.) and his father, Amenhotep III (1391–1353 B.C.). Many of them concern affairs in the Levant (see Figure 7.8).

FIGURE 7.8 Amarna letter WAA 29791 excavated from the Egyptian royal archives at Amarna in Middle Egypt. This clay tablet bearing cuneiform script is a letter from Tushratta, king of Mitanni, to the Egyptian ruler Amenhotep III (reigned 1391–1353 B.C.). Tushratta seeks gifts of Egyptian gold from a land where he claims "gold is as plentiful as dirt." Amenhotep III had married Tushratta's daughter Tadukhepa who entered the Egyptian royal harem as one of his many wives. Such diplomatic marriages were a feature of interstate relationships during this period.
www.BibleLandPictures.com/Alamy

Most of the Amarna tablets are written in Akkadian, the diplomatic language of the period. Most are from foreign princes to the pharaoh, but a few are copies of letters sent by the pharaoh. The general tone is of Levantine rulers protesting their loyalty to Egypt, accusing their neighbors of treachery,

and asking for assistance against them. Many of these rulers may indeed have felt threatened by the rising power of the Hittites, for it was at this time that Suppiluliumas defeated Mitanni and became heir to its Levantine dependencies. It is clear, however, that the local princes themselves were engaged in shady diplomacy, defecting to the Hittites whenever that served their purpose.

These Levantine city-states were linked into trade networks that reached far beyond Egypt, Mesopotamia, and the East Mediterranean. A royal grave at Qatna contained almost 2,000 finds including jewelry, bronzes, ivories, pottery and stone vessels, basalt statues, sarcophagi, human and animal bones. There was also Baltic amber, carved into a variety of decorative items —a vessel (with lid) in the form of a lion's head, and approximately ninety necklace beads. Not for nothing is the Late Bronze Age of the Levant often described as the "Age of Internationalism." For many parts of the Fertile Crescent, however, it was a low point in settlement. It seems that during this time of upheaval, much of the countryside was deserted and, at least in some areas, people sought safety behind fortifications. Even they did not always bring the desired security. Qatna was sacked and destroyed by the Hittites in c. 1340 B.C., bringing to an end the sequence of royal burials.

Hostility between Egypt and the Hittites continued into the thirteenth century B.C., culminating in a great battle at Kadesh in 1279 B.C. The protagonists on this occasion were the vainglorious pharaoh Ramesses II and the Hittite ruler Muwatallis. We are fortunate in possessing a full account of the battle from the inscriptions and depictions of it that Ramesses had carved on temples in Egypt, including the Ramesseum at Thebes and the great rock-cut temple at Abu Simbel in Nubia (Figure 7.9). These are, naturally, slanted to the Egyptian point of view but nonetheless make it possible to reconstruct the course of events.

FIGURE 7.9 Relief carving from the Ramesseum, the mortuary temple of the pharaoh Ramesses II at Thebes in Egypt, depicting the king in battle against the Hittites at Kadesh. Both sides claimed victory, and though the Hittites had the upper hand neither they nor the Egyptians were able to gain undisputed supremacy over the Levantine city-states. Magica/Alamy Stock Photo.

A key feature of the battle was the war chariot. This was a light, two-wheeled fighting platform pulled by a pair of well-trained horses. The Sumerians in the third millennium had used heavy four-wheeled carts in battle; they are riding down on the enemy on one side of the famous *Standard* of Ur. The war chariot was a very different contrivance, however—lightweight in construction and capable of traveling at a high speed. Controlled by a driver, it carried an archer rapidly across the field of battle. This mobile firing platform was especially good for harrying slow-moving infantry formations. The war chariot became an essential element of Southwest Asian armies during the second millennium B.C., though its effectiveness must always have been limited by the need for level terrain. That said, the Hittites used war chariots with great success in their encounter with Ramesses II at Kadesh.

Both sides claimed victory at Kadesh, but sixteen years later Egyptians and Hittites officially recognized the futility of further conflict and negotiated a peace treaty that left the Levant divided into Egyptian and Hittite zones.

THE HITTITES IN ANATOLIA (1400–1200 B.C.)

Despite Hittite interest in the northern Levant, the heart of their empire remained central Anatolia, and it is here that one would expect their greatest monuments to be found. In fact, much less is known about Hittite archaeology than we might like or would expect, given this people's historic

importance. The principal site remains Boghazköy, the capital, where the fortifications were rebuilt and strengthened during the reigns of Suppiluliumas and his successors. There were over two dozen temples within the walls, some (like the city walls themselves) built on foundations of massive stone masonry. For the clearest evidence of Hittite religion we must look 2 kilometers (1.2 miles) beyond Boghazköy to Yazilikaya (Figure 7.10a and b). It was here in the thirteenth century that one of the last Hittite kings, Tudhaliyas IV, had the gods and goddesses of the Hittite pantheon carved on the walls of a rock-cut defile.

FIGURE 7.10A Relief of the “soldier gods” from the Hittite sanctuary of Yazilikaya. De Agostini/Getty Images.

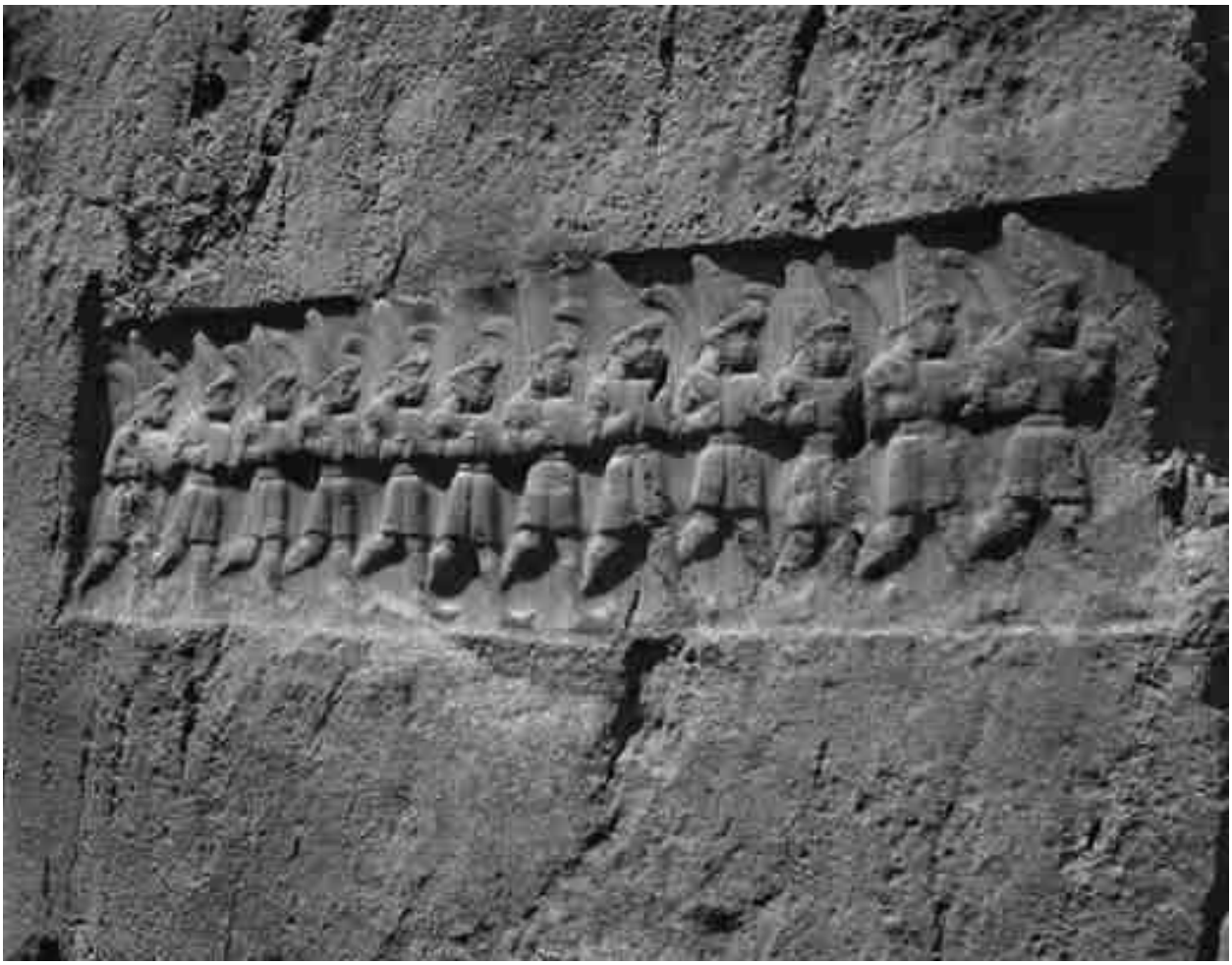
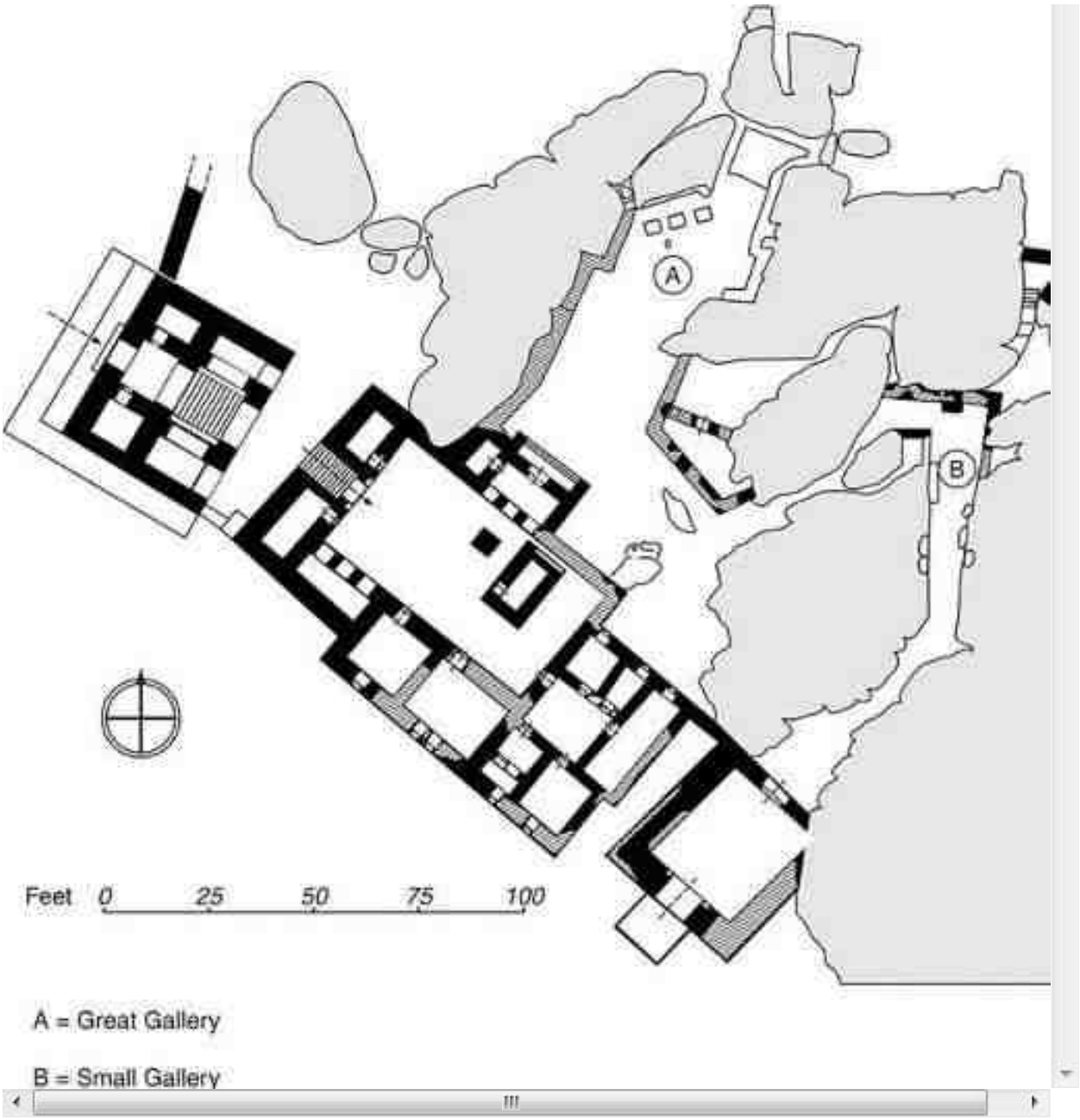


FIGURE 7.10B Plan of sanctuary. The open-air sanctuary of Yazilikaya lies less than a mile to the northeast of the Hittite capital, Boghazköy. It consists of two rocky clefts carved with relief portraits of the Hittite pantheon. The figures are over 2 meters (6 feet, 6 inches) tall and are carved in continuous panels, as if in procession. The larger of the two decorated rock clefts, the so-called "Great Gallery," has figures of sixty-three deities, with gods on the left and goddesses on the right. The two processions meet at the end of the gallery, where the chief god Teshub, "Weather God of Heaven," meets his consort, Hepat. The name of each deity is given in hieroglyphs. The only human figure to appear in these scenes is King Tudhaliyas IV (c. 1237–1209 B.C.), who was responsible for the carving of both the great gallery and the smaller side gallery. In the great gallery Tudhaliyas is shown as a god himself, whereas in the small gallery he is embraced by the god Sharruma. The small gallery also has three rectangular niches in the walls, and it is conjectured that these were used for burial urns of Hittite rulers, possibly Tudhaliyas himself and his parents, Hattusilis III and Puduhepa.



The chief difficulty faced by the Hittite rulers was their insecurity within Anatolia itself. Expeditions to the Levant brought rich pickings and gave them direct control of wealthy and powerful Syrian cities such as Carchemish and Aleppo. All too often, however, these expeditions gave the local Anatolian peoples an opportunity to reassert their independence, sometimes even to attack the Hittites themselves. The Hittites controlled only central Anatolia directly (see Box 7.3). To the north lay the troublesome Kaska, a highland people in the mountains fronting the Black Sea whom the Hittites

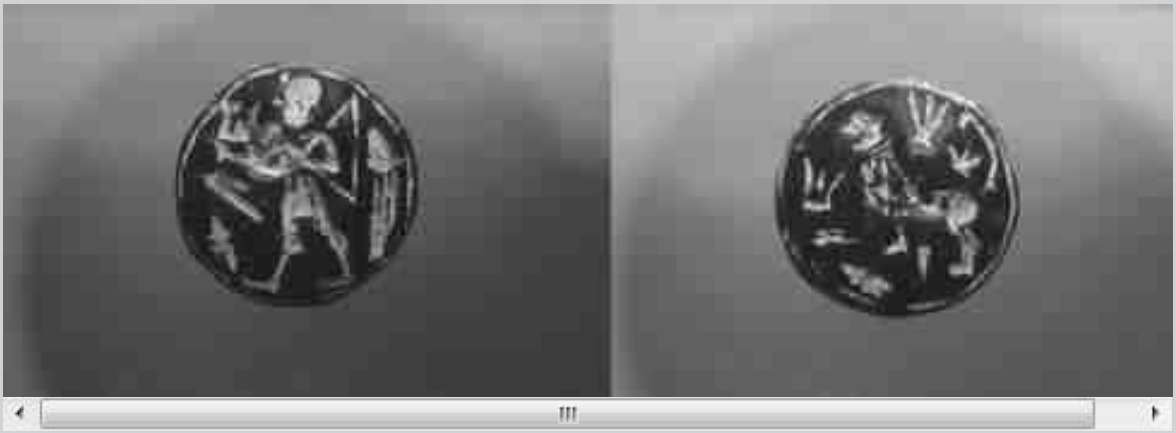
were constantly defeating but never able to subdue. To the southeast and southwest lay, respectively, the kingdoms of Kizzuwatna and Arzawa, sometimes allies and sometimes enemies. Further west still, on the Aegean coast, was a land known as Ahhiyawa. Scholars have debated whether this could be a reference to the Achaeans of Homeric legend, the Mycenaean Greeks. During the thirteenth century the "Great King" of Ahhiyawa seems to have controlled the territory around Miletus. Further north along this same Aegean coast lay the site of Troy at the entrance to the Dardanelles. If the legend of the Trojan War has any historical foundation it would have taken place around the middle of the thirteenth century B.C. and would represent a further episode of Mycenaean Greek expansion along this seaboard.

Box 7.3 Sites *Kilise Tepe*

During the second millennium B.C. Hittite power expanded from the Anatolian plateau to include the coastlands facing the Aegean to the west and the Mediterranean to the south. The narrow valley of the Göksü River is one of the principal routes linking the central plateau with the southern coast, and here, at a strategic fording point, stands the small tell site of Kilise Tepe. Occupation began in the third millennium B.C., but during the second millennium what may previously have been a small independent statelet was absorbed into the Hittite empire. The change is illustrated in Layer III by discoveries of standard unpainted Hittite pottery, which can be closely paralleled at the Hittite capital Boghazköy far away to the north. Kilise Tepe, however, also had links southward with the Mediterranean world, and these were confirmed by sherds of Mycenaean painted pottery found in the overlying Layer II. Layer III belongs to the period when the Hittite empire was at its strongest, but the Mycenaean pottery from Layer II dates probably to the twelfth century B.C., by which time Hittite centralized power was in eclipse. In this part of southern Anatolia, however, Hittite rule seems to have survived several decades longer than in the Hittite heartland, and though the site was destroyed by fire, Layer II also contained stone stamp seals with the names of officials in Hittite hieroglyphic (Figure 7.11). But Kilise Tepe did not escape unharmed from the disturbed conditions of the late second millennium B.C., and the site suffered a

second successive destruction by fire at about this time, perhaps from attack by the Sea Peoples. Such a strategically located site was not long abandoned, and Kilise Tepe became part of a small south Anatolian kingdom with strong connections to the Mediterranean in the early first millennium B.C. and eventually, as its name "Church mound" indicates, the site of a Byzantine ecclesiastical complex of the fifth to seventh centuries A.D.

FIGURE 7.11 Stamp seal of the Hittite official Tarhunta-piya, found in excavations at Kilise Tepe. He is carrying a bow, and his shoes (note the upward-pointing toes) are typically Anatolian in fashion. They illustrate the strong cultural links between the southern coastlands of Turkey and the Anatolian plateau, heartland of the Hittite empire. Nicholas Postgate.



The Aegean coast of Turkey lay at the extreme limit of Hittite influence; it was only very rarely that Hittite kings campaigned as far as the western sea.

The end of the Hittite empire is shrouded in mystery. Toward the end of the thirteenth century B.C. the Hittite capital Boghazköy was abandoned by its occupants and many of its buildings cleared of possessions. When the enemy entered the city and torched it, it was essentially deserted. Archaeology shows that all the major Hittite sites in Anatolia were destroyed and abandoned within a few decades B.C. The most likely perpetrators were the

Phrygians, a new enemy settled in the northern hills, although they may have entered what was already essentially a power vacuum left by the collapse of Hittite control. Certainly it was the Phrygians who were in possession of the Anatolian plateau when written records resumed in the first millennium B.C. Hittite survivors, meanwhile, fled south to the cities of Syria and the Levant, which were now the sole remnants of the once-great Hittite empire. These cities, known in this final period as Neo-Hittite, remained a powerful political force until they were absorbed into the Assyrian empire in the ninth and eighth centuries B.C.

MESOPOTAMIA AND IRAN (1400–1200 B.C.)

This account of Hittites, Egyptians, and the struggle for the Levant has left to one side events in the rest of Southwest Asia during the later second millennium. In Mesopotamia, political history in this period was dominated by two powers: Assyria in the north and the Kassites in the south. We have already encountered Assur as the homeland of the merchants stationed at Kanesh in Anatolia. In the fifteenth century B.C. Assur came under the control of the kings of Mitanni, but when the Hittites defeated Mitanni 150 years later, the Assyrians regained their autonomy and soon began to expand their territory. The result was the Middle Assyrian empire, which during the thirteenth century extended as far west as the border of Hittite territory along the Euphrates.

At around the same time as the kings of Mitanni were establishing themselves in the north, a new dynasty known as the *Kassites* took control of Babylonia. These outsiders ruled from Babylon and soon adopted the trappings of Babylonian culture and religion, though they also retained their own gods. Kassite kings are featured in the Amarna letters as the equals of Hittite and Egyptian rulers. In archaeological terms, the most striking Kassite remains are those of Dur-Kurigalzu (modern Aqar Quf), a city founded as a new capital by the Kassite king Kurigalzu II (1332–1308 B.C.). The royal palace covered an area of 9 hectares (22 acres), and the mud-brick core of the great ziggurat still stands to a height of 57 meters (187 feet).

Kurigalzu II was famous as a builder and as a warrior, leading his armies eastward against the kingdom of Elam. As in earlier periods (see Chapter 3), this realm lay along the edge of the Iranian plateau, partly on the plateau itself and partly on the lowland plain of Susiana at its foot. Like their Kassite

neighbors—and probably following their example—one of the Elamite kings founded a new capital city, Choga Zanbil, centered on a religious enclosure that contained a massive ziggurat, originally over 60 meters (296 feet) high (see Figure 7.12). Hittites, Egyptians, Assyrians, Kassites, and Elamites make up the complicated political map of Southwest Asia in the thirteenth century B.C. The further development of the region into the first millennium B.C. and the growth of the great "international" empires of Assyria, Babylon, and Persia are described in Chapter 8.

FIGURE 7.12 The reconstructed entrance to the ziggurat at Choga Zanbil, the purpose-built capital founded by Elamite ruler Untash-Napirisha. Like the ziggurat of Ur, a thousand years earlier, this was a stepped monument culminating in a shrine to the god (in this case the principal Elamite god Inshushinak) on the topmost stage. The structure has a core of sun-dried bricks, finished off with a facing of baked bricks, 2 meters thick, to protect against erosion. In every tenth row are inserted bricks inscribed with cuneiform text recording that it was Untash-Napirisha who built this massive structure. akg-images/Interfoto.

Summary

Kingdoms and states appeared on the Anatolian plateau in the later third millennium B.C., known to archaeologists from the royal burials at Alaça Höyük (c. 2500 B.C.) and excavations at Kanesh, where from 1900 B.C. the Assyrians maintained a trading colony. A period of political uncertainty in Mesopotamia after the collapse of the Ur III empire brought Babylon into prominence as trade with the Persian Gulf, and notably the island of Dilmun (Bahrain), flourished. In the north, Assur on the Tigris and Mari on the Euphrates became powerful, the latter being well known from the tablet archives at the palace of Zimri-Lim. Mari was overthrown by King Hammurabi of Babylon, who forged a major empire that covered both northern and southern Mesopotamia in the eighteenth century B.C. To the northwest, the Hittites came into prominence on the Anatolian plateau, raiding Babylon in 1595 B.C. The apogee of Hittite power came under King Suppiluliumas I (1350–1315 B.C.) when his armies competed with Egypt and Mitanni for control of the Levant. This power play culminated in 1279 B.C. in

the battle of Kadesh between the Hittites and Egyptians, the latter led by the redoubtable Ramesses II. The Hittite empire collapsed around 1200 B.C., dissolving south of the Taurus Mountains into powerful neo-Hittite city-states, which were absorbed into the Assyrian empire in the ninth century B.C.

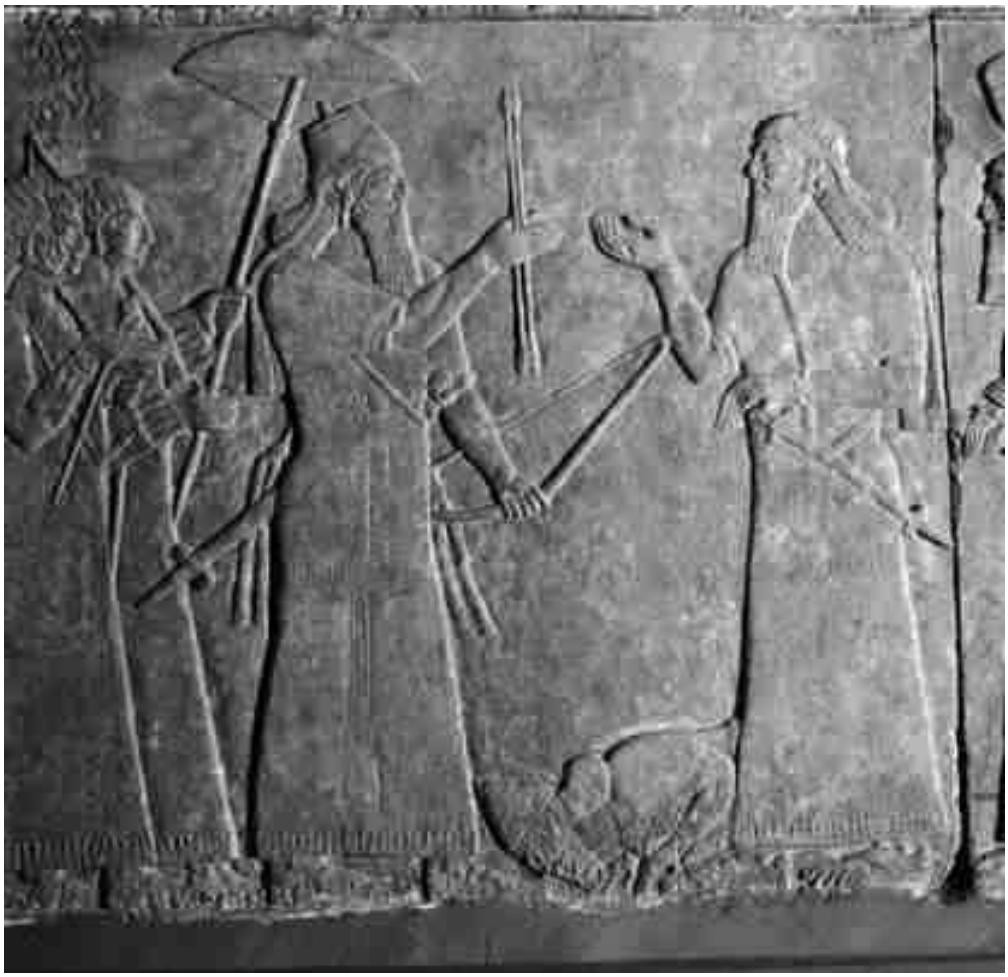
Note

1. *Travels in Georgia, Persia, Armenia, Ancient Babylonia, etc.* 2 vols. (London: John Murray, 1822). *N.B:* 1818 is the date of Porter's visit to Babylon.

CHAPTER 8

Southwest Asia in the First Millennium B.C.

FIGURE 8.0 Assyrian King Assurnasirpal (883–859 B.C.), shaded by a parasol, receives the surrender of prisoners of war. Carved relief panel from the palace at Nimrud in Iraq. Ancient Art & Architecture Collection Ltd/Alamy.



The doors of the great audience chamber swung open, and the attendants escorted the foreign delegation forward. On either side the walls of the room were decorated with bands of brightly painted reliefs that depicted cities falling to Assyrian attack and the king presiding over the torture and execution of rebels. There was no mistaking the message here as the foreign delegation was ushered forward into the presence of the king himself. There, at the end of the room, sat Assurnasirpal, on a throne emblazoned with gilded ivories. Around him stood his courtiers and attendants, richly attired in brightly colored clothes and jewels, hair and beards elegantly dressed and perfumed. Silence descended as the usher tapped the floor with his stick, and the king spoke: "Know ye not what I do to my enemies; how I flay some, burn others alive, immure them in the walls of their palaces, leave them to die as if they had never been? How I deal with captives, cutting off noses, ears, and fingers, putting out their eyes? Submit then, before it is too late!" [fictional quote]

CHAPTER OUTLINE

A Reordered World (1200–1000 B.C.)
The Mediterranean Coastlands (1000–700 B.C.)
The Archaeology of Empire
Assyria Resurgent (911–680 B.C.)
The Mountain Kingdom of Urartu (c. 830–600 B.C.)
The Assyrian Apogee (680–612 B.C.)
The Neo-Babylonian Empire (612–539 B.C.)
Phrygians and Lydians (750–500 B.C.)
The Rise of the Persians (614–490 B.C.)

Menacing scenes such as the one described above may have been a regular occurrence in the audience chamber of Assurnasirpal, ruler of the Assyrian empire in the ninth century B.C. We may still see today the king on his throne, surrounded by courtiers, depicted in the relief carvings taken from his palace. The palace itself survived only as a mud-brick ruin, revealing little of its former glory and was seriously damaged by Islamist insurgents in 2015. Archaeology and imagination together are needed to restore its original appearance in the mind's eye. For the words of the king himself, however, we rely not on imagination alone but on Assurnasirpal's own royal inscriptions, which detail the refinements of cruelty he used to instill fear into his enemies. The weapon of terror was highly effective as the Assyrians built and consolidated their great empire.

This chapter describes developments in Southwest Asia during the first half of the first millennium B.C. One feature of the period was the emergence of new kingdoms—notably that of the Israelites—in the Levant. To their north were the Phoenicians, enterprising merchants with an alphabetic script, precursor to our own. But, above all, a succession of empires dominates these centuries: first, the Assyrian empire; then the Neo-Babylonian; and finally the Persian, or Achaemenid, which brought imperial rule to the shores of the Aegean Sea (see Table 7.1).

A REORDERED WORLD (1200–1000 B.C.)

New peoples entered the archaeological record in Southwest Asia after the dissolution or decline of the "great powers" around 1200 B.C. The two following centuries are sometimes called the "dark age," largely because of a dearth of historical records. It does not mean that there were no thriving communities in the region during this period. Yet there was a measure of disruption as the old order collapsed. The Hittite empire disappeared around the end of the thirteenth century; Assyria slipped into decline after the murder of King Tukulti-Ninurta I in 1207 B.C.; and Egypt withdrew within its own borders under the combined effect of economic difficulty, internal unrest, and the onslaught of the so-called Sea Peoples. It was during these troubled times that the Philistines, one of the Sea Peoples, took control of the coastal plain.

We first meet the Sea Peoples in Egyptian historical texts of the thirteenth century B.C. They were an assortment of different peoples who operated around the shores of the eastern Mediterranean and were described by the Egyptians as bent on raiding and plunder. There was evidently considerable movement and disruption throughout the East Mediterranean at this period, and many of the newcomers were traveling in ships. One of the Sea Peoples is described in Egyptian accounts as *Peleset.* These are the Philistines, famous in the Bible as opponents of the Israelites. Goliath, slain by David, was a Philistine, and it was the Philistines who captured and blinded the Israelite hero Samson. During biblical times the Philistines lived in the coastal cities of the southern Levant, where they had settled after taking part in the attacks on Egypt. Archaeology shows that their pottery, painted with red or black geometric designs, was derived from Mycenaean prototypes. Their temples, too, owed little to local Canaanite forms of the late Bronze Age but had more in common with Mycenaean or Cycladic examples. Recent studies of ancient DNA from burials at the Philistine city of Ashkelon suggest there was in fact a limited influx of European settlers here in the twelfth century B.C., perhaps substantiating the Egyptian historical accounts.

One significant innovation was the use of iron. Bronze, an alloy of copper and tin, is a useful metal but expensive because of the scarcity of tin, which had to be shipped over long distances from sources on the Iranian plateau. Equipping whole armies with bronze helmets and weaponry was beyond the means of all but the wealthiest states. Iron, in contrast, is a much more common metal, though it does require higher temperatures to extract from the ore. It is also worked differently; whereas bronze is poured into molds to give it a predetermined shape (casting), iron is usually hammered into shape while

red-hot (forging). However, Chinese metalworkers did cast iron from an early period (see Chapter 15). These technological differences delayed the spread of iron. It had been known as early as the third millennium B.C. and appears in the royal graves at Alaça Höyük. The Egyptian pharaoh Tutankhamun was buried with an iron knife in the fourteenth century B.C., but the metal was still a rarity at that time and was considered more valuable than gold. It was only in the eleventh century that iron came into more widespread use in the Aegean and at various points throughout Southwest Asia, probably because the collapse of the great powers disrupted the traditional trade routes. For a while, copper and tin became even more difficult to obtain. Many communities switched their efforts away from the old metal to the development of the nascent iron technology. Once the new technology was mastered, iron proved to have significant advantages over bronze. It was plentiful enough to be used for everyday items such as farming implements and military gear, and it could be worked to a harder edge than bronze.

Iron was among the innovations introduced to the Levant by the Philistines. From there it spread to other local communities, including the Israelites. Elsewhere in Southwest Asia, iron technology was also developed by the city-states of Syria and Anatolia and by the Assyrians east of the Euphrates. This event forms the distinction, in conventional archaeological terms, between the Late Bronze Age of the later second millennium and the Iron Age of the first millennium B.C. The transition from bronze to iron was only gradual, however, and older theories of the impact of the metal on social structures and military advantage are now generally discounted. The important change at the end of the Late Bronze Age was not the appearance of a new metal but the collapse of the Bronze Age empires and trading networks.

THE MEDITERRANEAN COASTLANDS (1000–700 B.C.)

In archaeology and history it was not the Philistines but their neighbors to the east and north, the Israelites and Phoenicians, who were the leading Levantine powers of the early first millennium B.C. When Egyptian control of the southern Levant faltered around 1200 B.C., and the Hittite kingdom of Anatolia collapsed, many of the smaller Levantine cities also fell into decline. Thus, Jericho, a substantial city during the Middle Bronze Age, had become a small unwalled settlement by the time of the supposed Israelite conquest.

The Israelites first come to historical prominence around 1000 B.C. when, according to the biblical account, Saul and then David founded and consolidated the kingdom of Israel, defeating their neighbors to the east and west, including the Philistines, to establish a measure of regional dominance. Tracing the earlier history of the Israelites is a more contentious business. The Old Testament recounts how the Israelites left Egypt after being oppressed by the pharaohs, an event (the Exodus) that some scholars have placed in the thirteenth century B.C. but that may be the memory of a much earlier episode. Led by Moses, they crossed the Red Sea before wandering forty years in the Sinai Desert and then entering the land of Canaan from the east across the River Jordan. How does this account tie in with the archaeology?

The question has naturally been taken up with great interest by Israeli archaeologists. Some have assembled evidence that supports an alternative version of events. Zertal identifies the Israelites with a swathe of rustic farming settlements of Early Iron Age date, the earliest of which lay on the desert margins of eastern Israel. As the Early Iron Age progressed, these settlements gradually spread westward into the hill country and the valleys. The hill country west of the Jordan appears to have witnessed a remarkable demographic explosion at this period, with populations growing to many times their previous level. The reason for this spread may not have been the military conquest of Canaan by the Israelites envisaged in the Bible but the economic collapse of the Canaanite cities in the late thirteenth century, coupled with the development of terraced field agriculture and more efficient technologies for the digging of cisterns and the clearing of upland forest. These technological changes lay behind the dispersal of settlement away from the lowland plains into the surrounding uplands, making it possible for sedentary farming to expand into those areas for the first time. This important settlement shift can be documented not only in the southern Levant but throughout many parts of Southwest Asia. It took place at the same time that the Hittites were defeated and the Sea Peoples attacked Egypt and then, as Philistines, settled the Levantine coast. According to the new theory of Israelite origins, then, the Israelites had long been present in Canaan as herders and farmers on the edge of the densely settled zone. Their takeover of the land was achieved by largely peaceful means. As the cities declined, the nonurban Israelites became the dominant power, eventually controlling the cities as well. Naturally, not all historians accept this version of events, but it

is an interesting example of the discord that often arises between archaeological evidence and literary or historical records of the very distant past.

The archaeology of the early kingdom of Israel is no less contentious. The traditional view holds that David's son and successor, Solomon (c. 965–931 B.C.), was a great builder. Several key cities (Gezer, Hazor, and Megiddo) are held to show evidence of powerful new fortifications from this period, but according to the Old Testament sources, Solomon's greatest efforts were devoted to Jerusalem. He turned Jerusalem into a splendid royal capital by extending David's city and taking in the Temple Mount. This became the site of an impressive upper city, containing the royal palace and the famous Temple itself, which Solomon built with help from Phoenician craftspeople and architects.

This reconstruction of events has been questioned from the archaeological evidence, which suggests instead that the great buildings of Megiddo and other "Solomonic" cities belong not to the tenth century but to the ninth century B.C., the period in which the northern kingdom of Israel arose as a significant regional power. Thus, revisionist archaeologists argue that the true story of the region in the tenth and ninth centuries is the development of a northern kingdom of Israel, descended directly from Late Bronze Age Canaanite roots, during the ninth century; followed by a southern kingdom, that of Judah, which achieved statehood only in the eighth century B.C. Tenth-century Jerusalem, according to this view, was a small hill-country stronghold for a ruling family—that of David and Solomon—who achieved mainly posthumous fame as the founders of the royal house of Judah. This reading is, of course, in conflict with the biblical account, which holds that the United Monarchy of David and Solomon was a major power already in the tenth century B.C., before it split (after Solomon's death) into the successor kingdoms of Israel and Judah. There is also new evidence from one site in southern Judah of a substantial stone building that may indeed date back to the period of the David and Solomon (tenth century B.C.). Did a centralized kingdom arise at this period, before splitting into two parts, or did Israel and Judah emerge independently as modest players in the regional power game at that during the ninth and eighth centuries B.C.? More evidence will be needed to resolve the question. The first historical fixed point is the battle of Qarqar in 853 B.C., when the king of Israel appears among a confederacy of local rulers fighting against the Assyrians.

The greatest Levantine traders of this period were the Phoenicians, centered on the coast of present-day Lebanon (see Figure 8.1). Here the cities of the Late Bronze Age had escaped the decline suffered by the Canaanite cities of Israel. The Phoenicians were not newcomers to the region, therefore, nor even to political power, but the direct descendants of the Bronze Age inhabitants. Their leading cities were scattered along the Mediterranean coast and were major ports, notably Tyre and Sidon. Freed from Egyptian overlordship in the twelfth century B.C., each city became an independent city-state, supported by the produce of an agricultural hinterland. Any fame that the Phoenicians may have had as farmers, however, was greatly overshadowed by their accomplishments as craftspeople and traders. They were particularly renowned for the production of multicolored glassware and carved ivories designed as inlays for furniture. Their most important legacy, however, was the alphabet (see Box 8.1).

FIGURE 8.1 The harbor of Byblos, on the coast of modern Lebanon, looking across toward the site of the ancient city. Already an important center for trade and commerce in the third and second millennium B.C., the Phoenician city of Byblos was eclipsed by its rivals, Tyre and Sidon, in the first millennium B.C. but has given us one of the earliest surviving alphabetic inscriptions, carved on the sarcophagus of its eleventh-century king Ahiram (see Box 8.1). Chris Scarre.

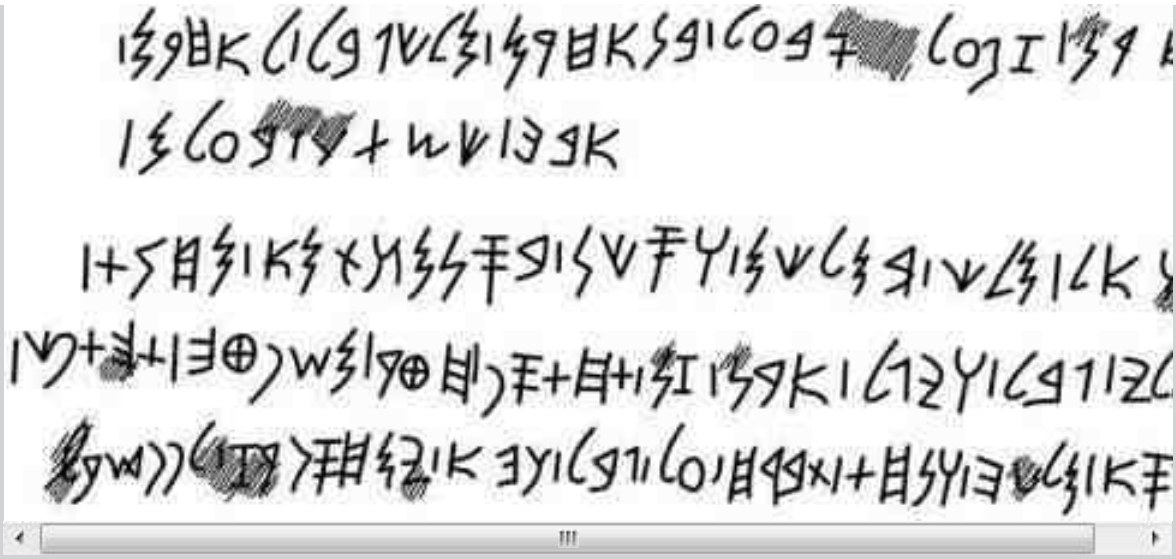
Box 8.1 Discoveries *Invention of the Alphabet*

The alphabet, one of the most significant inventions of ancient Southwest Asia, replaced the cumbersome syllabic scripts that had hitherto been in use. Syllabic scripts rendered each syllable by a separate sign. The large number of syllables in any language meant that the number of signs usually ran into hundreds (almost 600 in the case of Akkadian). Alphabetic scripts break down the syllables into their constituent vowels and consonants and need only twenty to thirty signs to represent all the sounds used in a language. The Phoenician alphabet had twenty-two signs; classical Greek had twenty-four; Etruscan and modern English have twenty-six (Figure 8.2).

FIGURE 8.2A Limestone sarcophagus of Ahiram, king of the Phoenician city of Byblos, eleventh century B.C. An inscription in alphabetic script runs around the outer

edge of the lid. Heritage Image Partnership Ltd/Alamy Stock Photo.

FIGURE 8.2B Phoenician inscription from the Ahiram sarcophagus from Byblos. Adapted from John F. Healey ‘The Early Alphabet’ in J.T. Hooker (ed) Reading the Past © 1990 British Museum Publications, p.221.



The idea of alphabetic components first appeared in inscriptions found in Sinai, known as Proto-Sinaitic and dated to c. 1700 B.C. These took Egyptian hieroglyphics as a basis but used a small selection of the full range of hieroglyphic signs to form the letters of an alphabet. The language of the inscriptions was not Egyptian but Canaanite, and it was in the Levant that the subsequent development of the alphabet took place. By the eleventh century B.C. a fully developed version of this early alphabet was being used by the Phoenicians. The Israelites and Aramaeans adopted and adapted the Phoenician alphabet in the ninth century B.C., and the Greeks adopted it from Phoenician merchants in the eighth century. From there it spread to Etruscans and Romans in the west. Being so much simpler to learn and use, alphabetic scripts gradually supplanted cuneiform during the final centuries of the first millennium B.C. The last known cuneiform tablet was written in Mesopotamia in A.D. 75, but syllabic scripts remain in use today in China and the Far East.

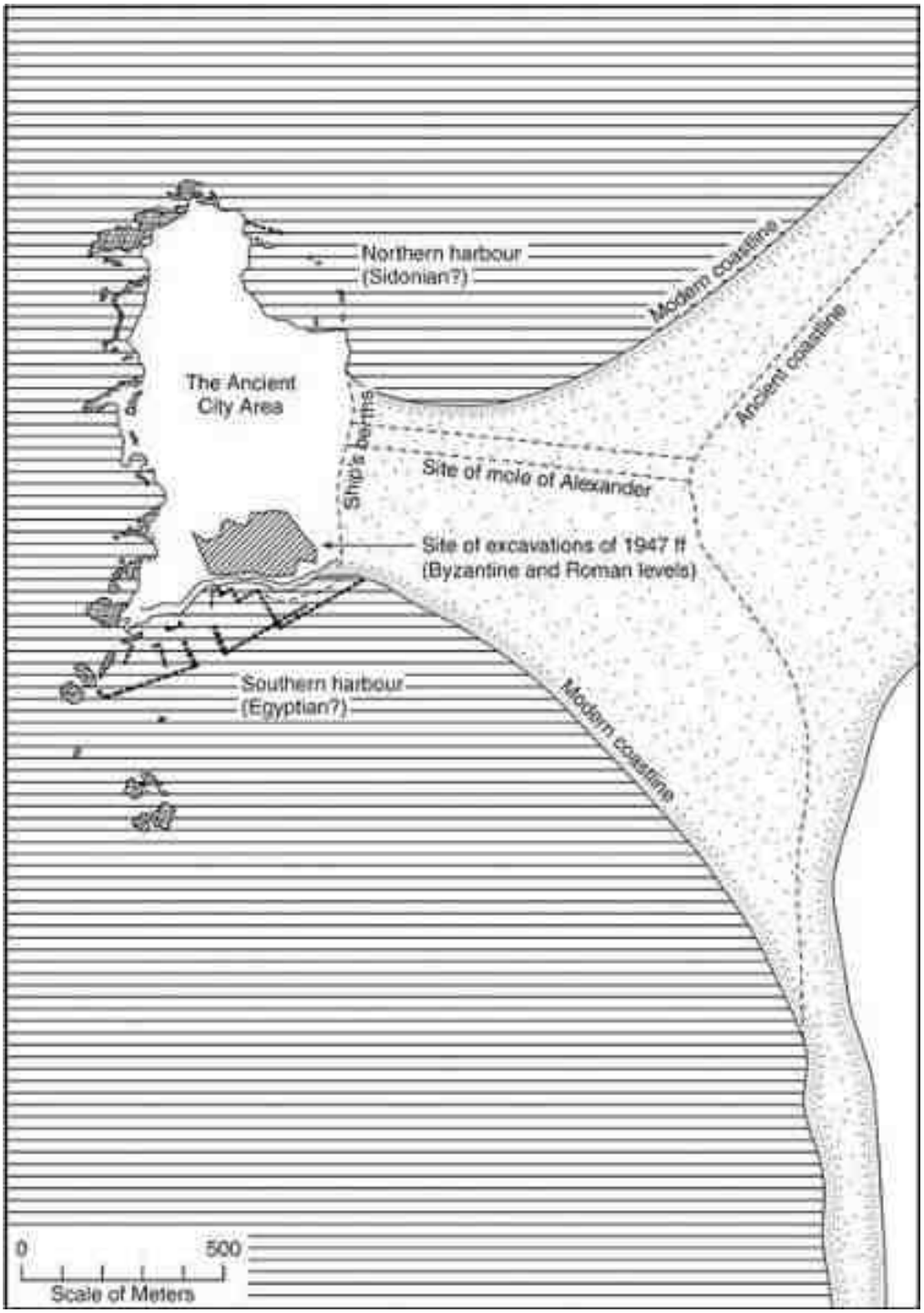
FIGURE 8.2C Phoenician alphabet with Hebrew, Greek, and modern English equivalents. Adapted from John F. Healey, 'The Early Alphabet' in J.T. Hooker, Reading the Past © 1990 British Museum Publications, p. 223.

Phoenician	Hebrew	Classical Greek	Modern Alphabetic
𐤀	א	A	a
𐤁	ב	B	b
𐤂	ג	Γ	g
𐤃	ד	Δ	d
𐤄	ה	E	h
𐤅	ו	Y	w
𐤆	ז	Z	z
𐤇	ח	H	h
𐤈	ט	Θ	t
𐤉	י	I	y
𐤊	כ	K	k
𐤋	ל	Λ	l
𐤌	מ	M	m
𐤍	נ	N	n
𐤎	ס	Ξ	s
𐤏	ע	O	o
𐤐	פ	Π	p
𐤑	צ		s
𐤒	ק		q
𐤓	ר	P	r
𐤔	ש	Σ	s
𐤕	ת	T	t

Remains of several Phoenician cities survive, though many (such as Tyre and Sidon) are buried beneath later constructions. Access to the sea was of

paramount importance since the Phoenicians were enterprising maritime traders. They were operating throughout the Mediterranean by the eighth century B.C. Sidon was situated on a rocky headland, Tyre and Aradus on offshore islands. The advantages of these locations, which provided natural defenses and sheltered anchorages, were improved by the building of seawalls and harbor works, linking together offshore reefs and islets with substantial masonry walls. Some of these harbor works may date back to the Bronze Age, but we can be sure that they were added to or improved during the great centuries of Phoenician trade in the first millennium B.C. (see Figure 8.3).

FIGURE 8.3 Plan of Phoenician city of Tyre with harbor works. Tyre was a major Phoenician port on the coast of modern Lebanon, an offshore island with sheltered anchorages to north and south. It was joined to the mainland only in the late fourth century B.C., when Alexander the Great built a causeway in order to capture the city.



The most graphic evidence of Phoenician maritime power is their foundation of colonies overseas. There is some uncertainty about when this process first began, but it is clear that by the eighth century B.C. new Phoenician cities had been founded in Spain, North Africa, and Sicily, always in coastal locations and with a view to trade. Southern Spain was particularly

important as a source of metals, but the greatest Phoenician overseas foundation was undoubtedly the city of Carthage in modern Tunisia (see Chapter 10). At home, the Phoenician cities continued to flourish, first as independent states and then, from the late eighth century, as subjects of the Assyrian and Persian empires. This explains why many of the finest examples of Phoenician craftsmanship were found not in the Levant but in the Assyrian heartland of northern Mesopotamia. When British archaeologist Sir Max Mallowan was excavating the Assyrian capital of Nimrud in the 1950s, he discovered whole caches of carved Phoenician ivory panels in royal storerooms—the so-called Nimrud ivories. These had been taken by the Assyrians as plunder or tribute but were abandoned when Nimrud was destroyed by the Medes in 612 B.C. (Figure 8.4).

FIGURE 8.4 Nimrud ivory found in the remains of Fort Shalmaneser, an Assyrian storehouse and military arsenal on the edge of ancient Nimrud. These ivories are of Phoenician origin and were probably taken by the Assyrians as booty or tribute. Pieces such as this, showing winged griffins (mythical beasts) and plants, were made as inlay for expensive pieces of furniture. DEA/A. de Gregorio/Getty Images

THE ARCHAEOLOGY OF EMPIRE

Reference to the Assyrians brings us to what may be considered the “grand narrative” of Southwest Asia in the first millennium B.C.: the formation of the great empires. There had been earlier attempts to bind the states of Mesopotamia, Syria, and the Levant into a larger political unit: Sargon and Ur-Nammu in the third millennium and Hammurabi in the second achieved some measure of success, as had the empires of Egypt and the Hittites.

Neither in size nor longevity, however, did their empires equal the great international states of the Assyrians, Neo-Babylonians, and Persians.

The archaeology of empire focuses on the mechanisms that integrated the imperial heartland with the dependent provinces and on the effects of imperial rule on both these elements. The distinction between a state and an empire is that an empire is an amalgam of several states that are allowed to retain a measure of cultural identity, and even political autonomy, provided they deliver tribute to the imperial heartland and do not deviate from their allegiance. In most empires, the dependent territories are acquired by military conquest, and there tends to be resistance to the central authority. Conquered territories become provinces, to be exploited for what they can yield in revenue. Imperial governments usually send direct representatives as governors of the provinces, supported by military garrisons to hold the subject peoples in check.

Empires, then, are larger than individual states and more internally diverse. They combine a number of areas with different languages, religions, economies, and cultural traditions. They are thus polyglot and heterogeneous and require powerful and sophisticated government mechanisms to bind them together. In archaeological terms, it is expected that the heartland of an empire will provide evidence of a flourishing population and economy. Revenues from the provinces are used to enrich the elite and build grandiose monuments in the major cities, which become impressive statements of imperial power. In the provinces, there may be a mixture of outcomes. Palaces of provincial governors and military fortresses of imperial garrisons may be found. These may follow a standardized imperial plan or contain features that link them artistically or architecturally with the traditions of the imperial heartland. Other provincial centers, as well as the rural areas, may suffer decline as the imperial power seeks to wrest from them what revenue it can. Provincial systems, however, are not the only way of governing dependent territories. Direct rule over conquered lands is a costly business and breeds resentment at the local level. Another strategy is to recruit local rulers to the cause of an imperial power, cowing them into submission by a show of force or allowing them—or perhaps a close relative—to continue in power after they have been defeated, though on carefully specified terms. This can be a better solution for the imperial government since it provides a steady flow of tribute for minimum effort once the initial show of force has been made.

Most historical empires consist of a patchwork of directly controlled provinces and subject kings. There is often a core-and-periphery pattern, in which territories near the center are organized into provinces while outlying regions are left in the control of local dynasties. Empires are wont to flaunt their power and success in grand imperialistic monuments and gestures. Paradoxically, however, their real success depends on the support of their subject territories. No imperial power can fight on all fronts at once. The long-lived empires are those that have developed a stable pattern of control or have been able to adapt flexibly as circumstances change.

We meet a number of empires in this and later chapters: notably the Roman Empire (Chapter 11), the Han Empire of China (Chapter 14), the Aztec Empire (Chapter 16), and the Inka Empire (Chapter 18). Each developed a different solution to the problem of effective imperial control.

ASSYRIA RESURGENT (911–680 B.C.)

The Assyrians were old players on the Mesopotamian scene. Their history is conventionally divided into three stages: Old, Middle, and Late. We have already seen how in the Old Assyrian period (nineteenth and eighteenth centuries B.C.) merchants from Assur in the Assyrian heartland were trading with cities on the Anatolian plateau. The Assyrians entered a second period of power and prosperity when they threw off the Mitannian yoke in the fourteenth century and established the Middle Assyrian kingdom. This extended as far west as the Euphrates at times and lasted until the death of the powerful King Tiglath-pileser I in 1076 B.C. There followed a century and a half of Assyrian weakness, ending in 911 B.C. with the accession of a strong new ruler, Adad-Nirari II (911–891 B.C.), who established firm control over the Assyrian heartland and began the conquest of adjacent territories. His reign marks the beginning of the Late Assyrian period, which lasted until the destruction of the Assyrian capital, Nineveh, in 612 B.C.

The first of the great Late Assyrian rulers was Assurnasirpal II (883–859 B.C.). He repeated the exploits of his Middle Assyrian forebears, leading Assyrian armies to the shores of the Mediterranean and extorting tribute from the lesser kingdoms he encountered. Some of the wealth was plowed back into projects at home, notably the construction of a new Assyrian capital at Nimrud. The earlier capital, Assur, was not abandoned but became more a

ritual and religious center than an administrative capital. The Assyrian kings were buried at Assur but governed from Nimrud.

The building of Nimrud was an enormous undertaking, demanding some fifteen years of concerted effort by a veritable army of craftspeople and laborers. The city covered an area of around 350 hectares (864 acres) and was surrounded by a city wall incorporating an estimated 70 million sun-dried bricks. Pride of place went to the royal palace (the so-called North-West Palace) built on the raised citadel at one edge of the city. This was the first of many elaborate royal palaces built by Assyrian kings at their capitals. It was first in another sense, too, for it was Assurnasirpal who introduced the practice of decorating the walls of the principal rooms with friezes carved in low relief. Today, these are star exhibits of Western museums, such as the Louvre and the British Museum, but their present appearance is misleading since like Greek sculpture of a slightly later period, they were originally brightly painted in vivid colors, with further painted scenes on the plaster of the high walls above. Traces of paint still survive on some of the relief panels. It serves to remind us that the origin of Assurnasirpal's reliefs lay in an earlier Assyrian tradition of brightly colored wall decoration and in the carved bas-reliefs of the north Syrian Neo-Hittite cities he would have seen on his campaigns (see Chapter 7). A few fragments of glazed brick wall decorations survive from Middle Assyrian Assur, as well as traces of wall paintings from other sites. Assurnasirpal's main innovation was to translate this tradition into stone.

This is not to deny the skill of the Assyrian stonecutters or the interest of the reliefs themselves, both as art history and as political propaganda. The slabs themselves are generally around 2 meters (6.5 feet) high and about twice that in width. They depict scenes of warfare (proclaiming the might of Assyrian arms), of gods and demons, and of the king hunting and at rest (Figure 8.0). They were dispersed about the walls of the palace in a conscious pattern, relating to the use of particular rooms. At the entrances to courtyards and reception halls there were enormous sculptures in the round—colossal bull figures with sweeping wings and human heads. These were *lamassu* figures, intended to provide ritual protection against the forces of evil. They also reminded the visitor of the awesome power of the Assyrian king. The completion of Assurnasirpal's palace was marked by an enormous ten-day feast and party to which almost 70,000 guests were invited. Few could fail to have been impressed by this demonstration of royal magnificence, and in a

real sense Assurnasirpal's reign marks the beginning of the Assyrian empire. His power rested on annual military campaigns, conducted with great ferocity, which ensured the submission of neighboring rulers.

The pattern continued under Shalmaneser III (858–824 B.C.), who consolidated Assyrian dominance over Syria and the Mediterranean coastlands; he had a rock relief carved at Nahr el-Kelb near Beirut and commemorated his victory over the Phoenicians and others on the bronze gates found at Balawat, not far from Nimrud, which show the rulers of Tyre and Sidon bringing tribute. Shalmaneser also campaigned in the north, against the nascent kingdom of Urartu. Most of these areas west of the Euphrates remained outside direct Assyrian control, however, and soon broke free when Assyria itself was assailed by civil war in the declining years of Shalmaneser. Imperial fortunes were restored by Tiglath-pileser III (745–727 B.C.), who reduced the western kingdoms to the status of conquered provinces (see Figure 8.5). Imperial expansion continued apace under Sargon II (722–705 B.C.) and Sennacherib (704–680 B.C.). Among Sargon's conquests was the kingdom of Israel. For his part, Sennacherib conquered and destroyed the city of Babylon, which had become a troublesome dependency of the Assyrian empire after its earlier centuries of independent greatness.

FIGURE 8.5 Map showing the expansion of the Assyrian empire under Tiglath-Pileser III (745–727 B.C.), Sargon II (722–705 B.C.), and Assurbanipal (668–627 B.C.).

THE MOUNTAIN KINGDOM OF URARTU (C. 830–600 B.C.)

Assyrian records make it clear that one of their doughtiest opponents lay in the north, in the mountainous terrain of Armenia. This was the kingdom of Urartu (biblical Ararat), with its capital, Tushpa, on the eastern shores of Lake Van. Armenia had long been divided among a number of minor rulers, but it was the growing threat from Assyria that caused these people to band together and form a single realm. Indeed, if any one event may be said to

have forged the Urartian kingdom it was the five campaigns led against the Urartians by the Assyrian ruler Shalmaneser III (858–824 B.C.). Urartu successfully withstood further Assyrian attacks for almost 200 years.

The secret of Urartu's success was its geographical remoteness, coupled with the Urartians' skill at fortification. When the Urartian army was defeated and failed to hold the frontier, the people would retreat into their strongholds and simply wait for the enemy to depart. The mountainous nature of Urartian territory made it ideal for this strategy, with many a craggy rock easily turned into a near-impregnable fortress. The capital itself, Van kale, is an excellent example. Almost a mile long but only 182 meters (600 feet) wide, the rock of Van was crowned with a line of mighty fortifications and cut through by a huge rock-cut ditch, dividing the core from the rest of the citadel (Figure 8.6). Later peoples have built on top of the earlier structures, remodeling and restoring the great fortress, but the large squared-stone blocks so typical of Urartian architecture can still be seen at the base of many of the walls. It was a considerable achievement, one that the Urartian kings were proud to record in cuneiform inscriptions.

FIGURE 8.6 View of Van Kale, ancient Tushpa, the capital of the mountain kingdom of Urartu. Most of the visible buildings at the site are of more recent date, but they stand on large block foundations of the original Urartian fortress. Chris Scarre.

Van kale was built by the first great Urartian king, Sarduri I, in 830 B.C. His successors added to his work but also embarked on a major irrigation project for the fields around the capital. Some of the canals and dams that they built can still be seen. The Urartians were also skilled bronze workers. The history of this important state, however, is only sketchily known. Urartian royal inscriptions show that in the eighth and seventh centuries B.C. the kingdom not only covered the Van region but also extended to the upper reaches of the Euphrates in the west and beyond Lake Urmia and Lake Sevan in the east. One of their best-excavated sites, Karmir-Blur, lies in the territory of the former Soviet Union. The end of Urartu, when it came, was due not to their traditional enemies, the Assyrians, but to a new power on the Iranian plateau to the east: The Medes and Persians discussed later in this chapter.

THE ASSYRIAN APOGEE (680–612 B.C.)

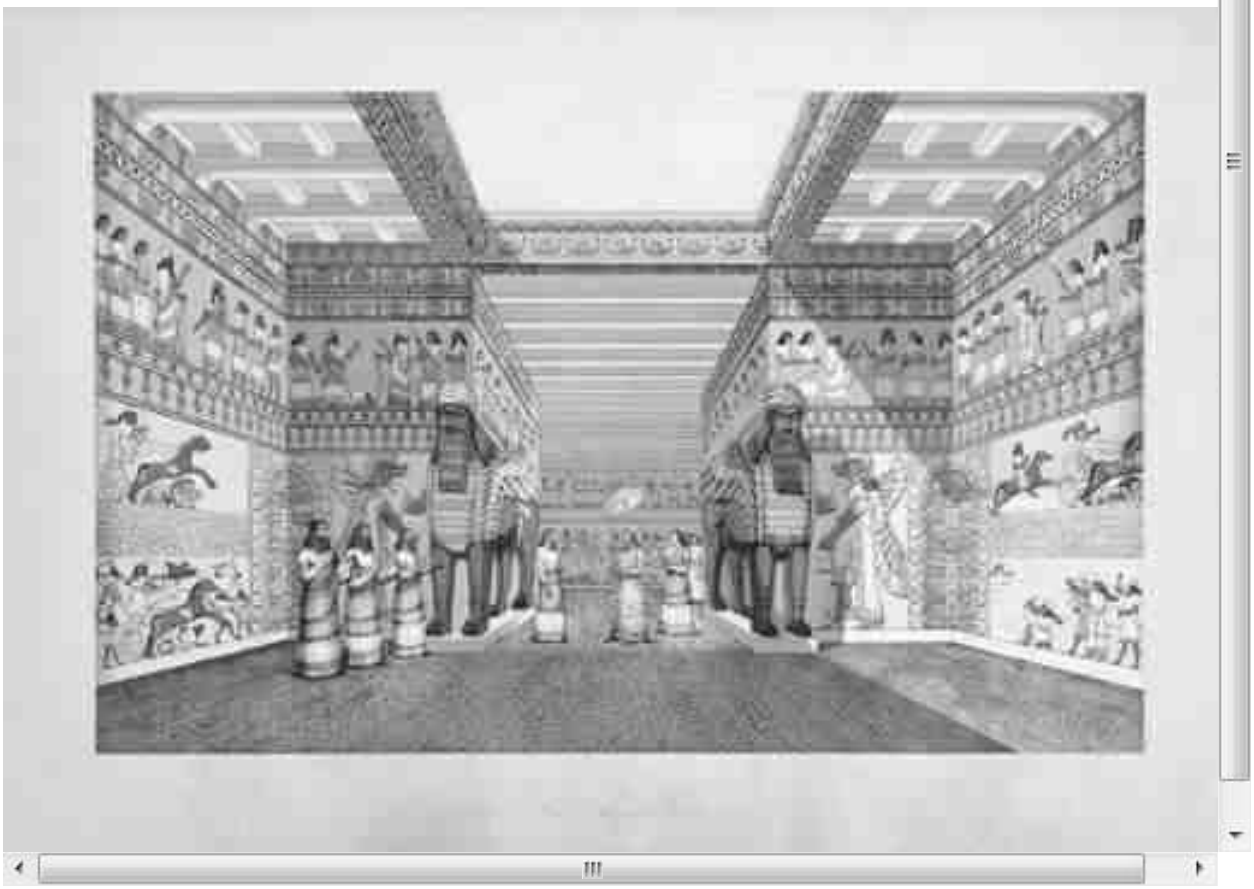
The last decades of Assyrian rule were marked by further conquests under Esarhaddon (680–669 B.C.) and Assurbanipal (668–627 B.C.), who brought the empire to its greatest extent. In 671 B.C. Esarhaddon conquered Egypt, and in

647 B.C. Assurbanipal finally defeated Assyria's eastern neighbors, the Elamites, sacking their capital city, Susa. Yet control of Egypt soon slipped from his grasp, his reign was afflicted by civil war, and the destruction of Elam was achieved only at great cost. During this final phase the Assyrian empire was governed not from Nimrud but from Nineveh, an old established city some 25 kilometers (16 miles) to the north. Sargon II had in fact established a new capital at Khorsabad, complete with royal palace and decorative wall reliefs, but this had been abandoned on his sudden death in battle in 705 B.C. It was the new ruler, Sennacherib, who moved the capital to Nineveh, building on the citadel of the ancient city a magnificent royal residence, the "Palace without a Rival." Sennacherib also laid out a lower city even larger than Nimrud, re-building the earlier walls, and around Nineveh he planted fields, gardens, and orchards. Elaborate canals were built to water them, drawing from springs in the mountains to the northeast of Nineveh. One of them crossed part of the intervening plain on the stone Jerwan aqueduct.

Sennacherib's palace had all the usual accoutrements of a major Assyrian residence: colossal guardian figures and impressively carved stone reliefs (over 2,000 sculptured slabs in 71 rooms) (Figure 8.7). Its gardens, too, were exceptional. Research by British Assyriologist Stephanie Dalley has suggested that these were the famous Hanging Gardens, one of the Seven Wonders of the Ancient World. Later writers placed the Hanging Gardens at Babylon, but extensive research has failed to find any trace of them. Sennacherib's proud account of the palace gardens he created at Nineveh fits that of the Hanging Gardens in several significant details, such as perhaps the use of screw pumps (the famous Archimedean screw, already invented in Mesopotamia long before the Greek scientist Archimedes was born). These pumps could have been used to lift water to the top of the gardens, whence it could run down in channels and ornamental cascades.

FIGURE 8.7 Reconstruction of one of the main reception rooms in the palace of Sennacherib at Nineveh, showing the winged human-headed lion figures guarding the doorway, the painted relief sculptures on the lower walls, and the wall paintings above the frieze higher up. From Sir Austen Henry Layard *Monuments of Nineveh from Drawings*

Made on the Spot (1849). Artokoloro Quint Lox Limited/Alamy Stock Photo.



One further discovery from Nineveh deserves mention. Austen Henry Layard was excavating here in 1849 when he came across two small rooms that contained a mass of clay tablets. These were the remains of the palace library. Another cache of tablets was found shortly afterward in the nearby palace of Assurbanipal in the northern part of the citadel mound. (Not content with Sennacherib's splendid residence, Assurbanipal built his own entirely new palace some fifty years later.) These two discoveries, totaling more than 25,000 pieces, form one of the largest and most important collections of clay tablets. They include not only diplomatic correspondence but also copies of earlier documents, including such Mesopotamian classics as the *Epic of Gilgamesh.* There are also scientific, religious, medical, and mathematical texts. Furthermore, we learn from letters that Assurbanipal's agents were scouring the cities of southern Mesopotamia, actually seeking ancient clay tablets. The palace reliefs portray the Assyrian kings as conquerors and lion

hunters; the clay tablets reveal that the palaces were also centers of scholarship and learning.

The archaeological signature of the Assyrian empire can be seen in the settlement pattern of the region. The Assyrian capitals grew to sizes far in excess of any Bronze Age cities. Nimrud measured 360 hectares, and Khorsabad (the purpose-built capital founded by Sargon II) some 300 hectares, but even these were outstripped by Nineveh in the seventh century, which covered no less than 750 hectares. These were the administrative centers of an extensive empire, linked to each other and to the outer provinces by a series of roads that can still be traced as “hollow ways” on modern satellite images of northern Mesopotamia. To feed the cities of the imperial heartland, successive Assyrian rulers engaged in large-scale irrigation works, building dams and canals to enhance the agricultural productivity of the surrounding steppe. Reliefs and inscriptions proclaimed the power of the king in his ability to control and divert the water of rivers and springs. Areas formerly dependent on rainfed agriculture became significantly more productive through the provision of dependable irrigation water. In areas where rainfall had hitherto been insufficient for reliable rainfed agriculture, large-scale irrigation systems brought them into agricultural use for the first time. Mass deportations of entire populations were undertaken to increase agricultural production in the newly colonized areas. Throughout the land of Ashur, between the Tigris and the Euphrates rivers, a scatter of small agricultural settlement testifies to the intensive agricultural exploitation of the landscape (Box 8.2). The objective of these arrangements was clear: to create an economically productive and politically coherent pattern of farms, villages, and fields entirely for the benefit of the central Assyrian authorities. Thus, the Assyrian empire was much more than the transitory political control of an imperial court over a preexisting farming landscape; it was the entire reorganization of that landscape through a massive investment in infrastructure, coupled with radical displacements of population.

Box 8.2 Sites *Landscape Archaeology and the Footprint of Empire*

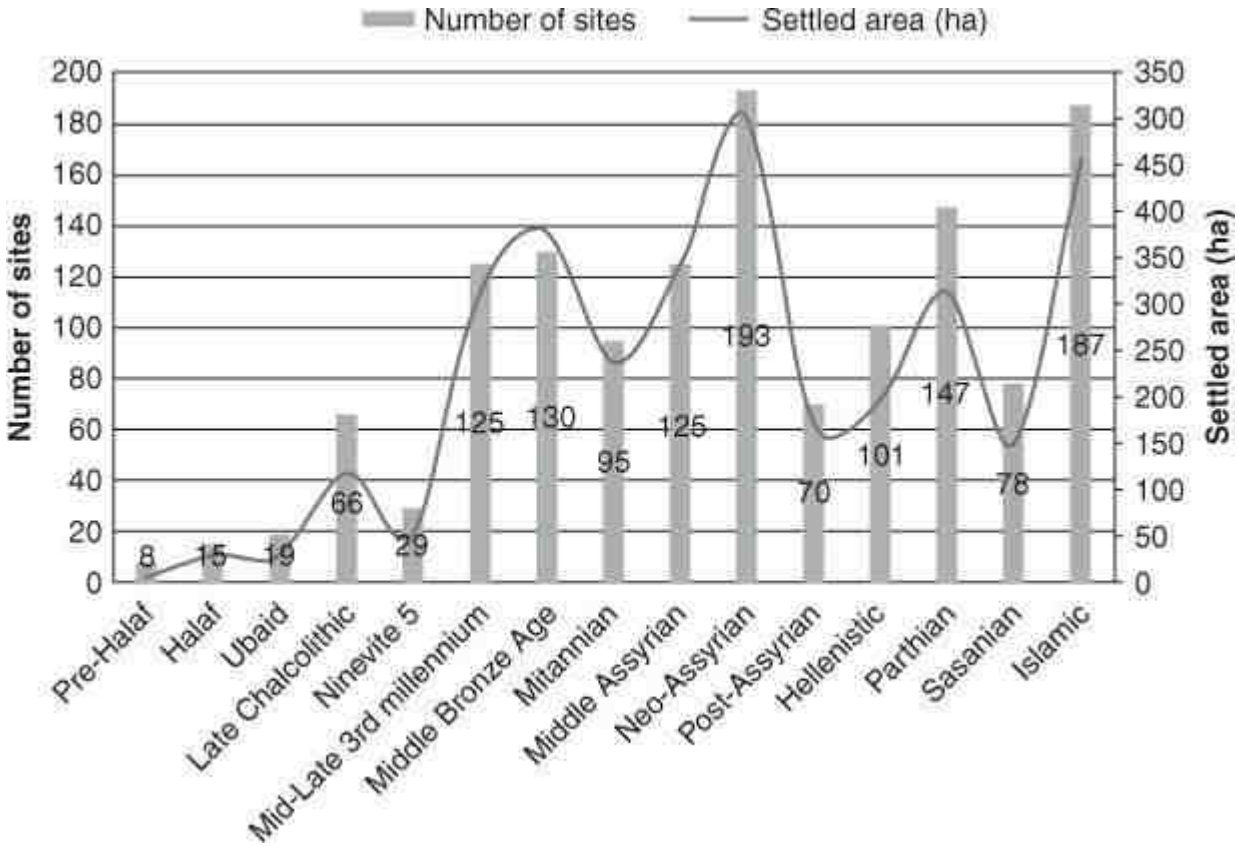
Cuneiform texts have supplied abundant information on the administration and history of the Assyrian Empire. Archaeological excavations have provided graphic views of palaces and their contents. These, however, are not the only sources of information. More recently, surveys of the archaeological landscape have complemented the record of texts and excavations. They have given significant insights into the changing patterns of settlement and economy, showing how the lives of ordinary rural communities were affected by the administrative practices of the empire.

In addition to exacting wealth via tribute from outlying provinces, Assyrian kings such as Sargon II (722–705 B.C.) increased the food supplies of the imperial core by expanding agriculture into formerly uncultivated areas of dry steppe. The cultivation of the dry steppe often required the resettlement of underpopulated areas with new populations forcibly deported from other parts of the empire, and in northern Iraq, archaeologists have been able to recognize the presence of such communities from the archaeological evidence.

Elsewhere, in the Assyrian heartland, archaeological surveys have shown how settlement patterns changed radically under the impact of empire. Successive Assyrian rulers increased the yield of lands near the imperial capitals by the construction of canals and irrigation networks. These irrigation systems not only increased the productivity of the fields, but also supplied water for imperial parks and hunting reserves within and around the imperial capital cities. Recent archaeological survey of the landscape north of Nineveh has shown how the density of settlement reached a peak during the period of the Assyrian empire, illustrating the intensive cultivation and exploitation of the urban hinterland around the major Assyrian cities.

Recent analysis of speleothems from the Kuna Ba cave in the Zagros mountains of Iraq has highlighted the role of climate change in facilitating the Assyrian expansion. It shows that for two centuries, from 925 to 725 B.C., Assyria experienced unusually high levels of rainfall, allowing expansion of cultivation in this usually dry region. From 675 B.C., that changed dramatically, and a prolonged drought ensued, persisting for more than a century. The drought, undermining crop yields and food supplies for the growing population, must have played a major part in triggering the Assyrian empire’s collapse.

FIGURE 8.8 Archaeological survey north of Nineveh by Daniele Morandi Bonacossi and his team has charted changing population levels from the pre-urban Ubaid period (fifth millennium B.C.) until recent times, illustrating the peak of settlement density under the Assyrian empire (from Morandi Bonacossi 2018).



THE NEO-BABYLONIAN EMPIRE (612–539 B.C.)

Assyria under Assurbanipal may have seemed unassailable, but it dissolved into chaos after his death, and the major Assyrian cities were sacked and destroyed by an alliance of Medes and Babylonians. The Medes were a people of the Iranian plateau who had established hegemony over neighboring regions and had created a powerful kingdom. Once Assyria had

fallen, however, they had withdrawn from Mesopotamia, leaving the Babylonians in control.

The Babylonians had been unwilling subjects of the Assyrians for many years. When Assurbanipal died in 627 B.C. they declared their independence and fought a long war, which ended with the capture of Nineveh, the Assyrian capital, in 612 B.C. During the long reign of Nebuchadnezzar (605–562 B.C.), the powerful Babylonians sought to reconstruct the Assyrian empire, with themselves, rather than the Assyrians, in control. In addition, Babylon had its own distinguished past to look back to—it was Hammurabi's capital and that of the Kassites during the previous millennium. The attempt to restore their imperial fortunes was very largely successful. One notable event occurred in 586 B.C., when Nebuchadnezzar captured and sacked the rebellious city of Jerusalem. The treasures of the temple were looted, and many prominent Jews were carried off into captivity in Babylonia.

In archaeological terms, it is once again the spectacular nature of the imperial capital that grabs our attention. The city of Babylon had been an important center for many centuries, since at least the time of Hammurabi in the Old Babylonian period. To distinguish it, the dynasty of Nebuchadnezzar is known as the Late Babylonian or (more commonly) Neo-Babylonian period, and it runs from the accession of his father, Nabopolassar, in 625 B.C. to the fall of Nabonidus in 539 B.C. Nebuchadnezzar reconstructed Babylon, turning it into a capital worthy of a great empire. He also restored the walls of Ur and constructed magnificent new temples at Kish, as well as other buildings in other famous cities of southern Mesopotamia. This enterprise continued under Nabonidus (555–539 B.C.), who succeeded Nebuchadnezzar after an interval marked by three short-lived rulers. Nabonidus was remarkable for his interest in antiquity and in the origin of the temples he restored. In several cases, before beginning to rebuild, he dug into the foundations to discover the foundation deposit and the inscription that recorded the builder of the temple. This work was inspired by piety more than scholarship, though Nabonidus also collected inscriptions and other remains and housed them in a kind of museum in the residence of his daughter, Bel-shalti-nannar, who was high priestess of the god Sin at Ur. The most famous museum was at Babylon itself, in the so-called Northern Citadel (see Box 8.3).

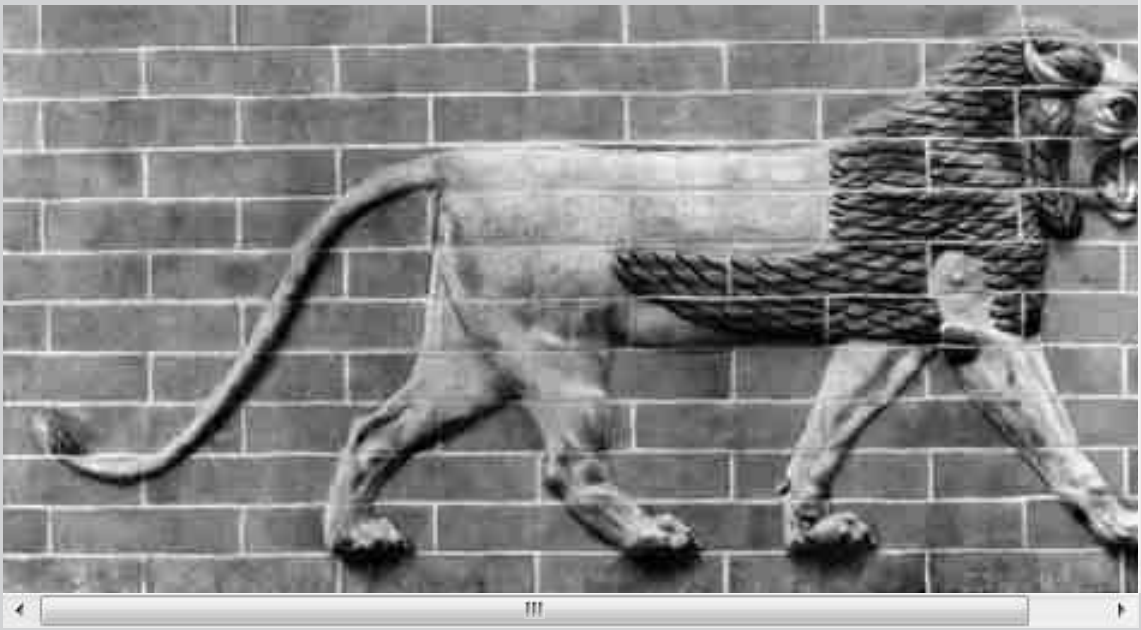
Box 8.3 Sites *Imperial Babylon*

Babylon under Nebuchadnezzar (605–562 B.C.) became the greatest city of Southwest Asia. We learn this from the account given by Nebuchadnezzar himself, and it is confirmed by the writings of the Greek historian Herodotus and by the findings of archaeology. From 1899 to 1913, Babylon was the subject of extensive excavations led by the German archaeologist Robert Koldewey. The closeness of the water table to the ground surface made it impossible for him to make deep soundings, as he had originally hoped, so he and his team contented themselves with a thorough investigation of the Neo-Babylonian levels.

The Germans discovered city walls, the royal palace, the great Temple of Marduk and other shrines, and areas of ordinary housing. The site itself was vast. The outer fortifications enclosed over 15 square kilometers (6 square miles) within a moated rampart. At the center lay the inner city, itself measuring 1.6 × 2.4 kilometers (1 × 1.5 miles). The walls of the inner city were considered one of the wonders of the ancient world, a double line of baked-brick fortifications with frequent towers and gates, with room enough on top for two four-horse chariots to pass. The most magnificent of the gates lay next to the royal palace on the northern side of the inner city, at the head of the processional way leading to the Temple of Marduk (the so-called Esagila) and the ziggurat (Etemenanki). This, the famous Ishtar Gate, was decorated with a facing of blue-glazed bricks in which figures of lions and bulls were picked out in molded relief (Figure 8.9).

FIGURE 8.9A The Ishtar Gate built c. 575 B.C. by King Nebuchadnezzar at Babylon, reconstructed in 1930 in the Pergamon Museum in Berlin. B.O'Kane/Alamy Stock Photo.

FIGURE 8.9B Glazed brick panel from the Ishtar Gate. Ivy Close Images/Alamy Stock Photo.



Babylon was not merely a royal capital and ceremonial center but also a major settlement with a population running into hundreds of thousands. The people lived in houses of two or three stories, though only the foundations survive. These were courtyard houses, the traditional Mesopotamian type, with rooms arranged around a central open court, looking inward and with few openings to the outside world. Some houses contained private chapels with family burials beneath the floor. The city also had over a thousand temples of various sizes, culminating in the Temple of Marduk himself, chief god of Babylon, whose shrine contained a gold statue of the god 6 meters (20 feet) tall. The citizens of this great metropolis no doubt included rich and poor, master and servant, slave and free, but it was an impressive showcase for Nebuchadnezzar's New Babylonian empire.

PHRYGIANS AND LYDIANS (750–500 B.C.)

This chapter ends with the fall of Babylon to the Persians in 539 B.C., but it is necessary first to outline developments in other regions of Southwest Asia. In Anatolia, the collapse of the Hittite realm in the thirteenth century B.C. initiated a period for which we have little historical or archaeological information. By the eighth century B.C. the central part of the Anatolian plateau had fallen under the control of the Phrygians, who ruled it from their capital at Gordion. American archaeologists have studied both the site itself and the impressive burial mounds in the plain around it. The city was modest by Assyrian standards but included a citadel encircled by a powerful stone wall strengthened by a timber framework. The lower city, too, was surrounded by a massive ashlar (hewn masonry) wall. Within the citadel was a building with a decorative floor mosaic, one of the earliest known. The burial mounds yielded the greatest surprises, however, especially the 50-meter-high (160-foot-high) "Tomb of Midas" (Figure 8.10).

FIGURE 8.10 The "Tomb of Midas" at Gordion in western Turkey. Chris Hellier/Alamy Stock Photo.

Midas is a semilegendary king of Phrygia, famous for his ability to turn objects into gold at his touch. The historical Midas was an eighth-century ruler who was first an enemy, then an ally, of Sargon II of Assyria. The gold-turning legend was probably a reference to the fabulous mineral wealth of the Phrygian kingdom, but remarkably enough the elaborate timber chamber found in the “Tomb of Midas” contained no objects of gold. It did, however, contain three large bronze cauldrons; 166 bronze bowls, ladles, and pitchers; and a series of three-legged wooden tables. The tomb can clearly be judged (from its size alone) to have been the burial place of one of the Phrygian rulers. The desire to link historical figures with archaeological finds is seductive and has persuaded many scholars to believe that this burial chamber may be that of Midas himself, as the traditional name of the mound suggests. Tree-ring dating of a timber from the burial chamber shows this particular tree was taken was cut down around 740 B.C. If Midas was still in power in 709 B.C., as Assyrian records indicate, the “Tomb of Midas” cannot be his but may well be that of his predecessor, Gordias, or of another member of the Phrygian ruling dynasty.

Scientific study of residues from vessels placed in the Tomb of Midas has revealed the nature of the funerary feast consumed by the mourners during the burial ritual. The banquet had included a spicy dish of sheep or goat meat with pulses, washed down by a mixed drink of grape wine, barley beer, and honey mead. The size of the ceremony can be judged from the presence of more than hundred bowls in which it had been served.

Archaeological fieldwork at Gordion has clarified the original landscape setting of the city, and its dramatic impact on the local environment. The city was founded on a gravel knoll within a bend of the river Sakarya, rising from a marshy plain some 3–5 meters (10–16 feet) below the present ground surface. The rise in ground level is a direct consequence of the activities of the Gordianites, who used large timber beams in their early constructions and may have intensified agricultural activity on the surrounding hillslopes. Deforestation and massive erosion were the inevitable result, and low-lying areas of the city became vulnerable to flooding. The Gordianites laid down thick layers of fill to raise their city above the flood danger and built masonry flood defenses, but river-borne alluvium gradually buried most of the low-lying areas. Only the Citadel Mound and the smaller Kücükhöyük rise above these alluvial deposits today. The fact that the alluviation of the plain coincided exactly with the development of the city, c. 700 B.C., illustrates the human origin of this environmental change.

The decline of Phrygia was balanced by the rise of a new Anatolian kingdom to the west, that of the Lydians. This kingdom, too, became famous for its wealth, especially during the reign of Croesus (c. 560–546 B.C.). The Lydian capital, Sardis, lay in a fertile plain near the western edge of the Anatolian plateau, close to gold-bearing hills and gold washings in the gravel of the River Pactolus. Some of the gold was in the form of electrum, a natural alloy of gold and silver, and the Lydian kings used this material to strike the world’s earliest known coinage. They also discovered the process for separating electrum into gold and silver. An installation where this was done has been excavated at Sardis, and it dates to the time of Croesus. The Lydian invention of coinage was soon copied by the Greeks and the Persians. The latter, however, also destroyed the Lydian kingdom, defeating Croesus and absorbing Lydia as a province of their vast empire.

THE RISE OF THE PERSIANS (614–490 B.C.)

We end this chapter with the creation of the Persian Empire. The Persians were a people of southwestern Iran, living on the plateau alongside the Persian Gulf. To their north, facing Mesopotamia, was the land of the Medes, another major people of the Iranian plateau. It was the Medes from their capital at Ecbatana (modern Hamadan) who first welded the peoples of western Iran into a major political and military power. The Median King Cyaxares invaded Mesopotamia in 614 B.C. and played a major part in the destruction of the Assyrian empire. Cyaxares also extended his rule into eastern Anatolia. A battle with the Lydians in 585 B.C. was allegedly forestalled by an eclipse of the sun. The two powers took this as a portent and agreed to make peace, fixing their common frontier along the River Halys.

This left four major players on the Southwest Asian scene: Lydia, Media, Babylonia, and Egypt. During this period the Persians were subjects of the Median kings, but in 550 B.C. the Persian ruler Cyrus "the Great" threw off the Median yoke and made the Persians the dominant power. Thus, the Median empire became a Persian one, and Cyrus embarked on a policy of aggressive expansionism. First to be conquered was Lydia in 546 B.C. Seven years later Cyrus led his armies against Babylonia, capturing Babylon itself in a whirlwind campaign. In 525 B.C. Cyrus's son and successor, Cambyses, conquered Egypt, but it was during the reign of Darius (522–486 B.C.) that the Persian Empire reached its greatest extent, from Thrace in the west to the Indus Valley in the east. It was under Darius, too, that the Persian Empire first came into conflict with the Greeks in the episode known as the Persian Wars (490–479 B.C.), described in Chapter 10.

One of the most famous memorials of Darius's reign is the relief at Behistun in western Iran, which played a key role in the decipherment of the cuneiform script (Box 8.4).

Box 8.4 Discoveries *The Decipherment of Cuneiform*

Eighteenth-century European explorers made careful copies of the inscriptions they saw on the ancient monuments of Southwest Asia, but the meaning of the texts was beyond them. These writings were in cuneiform, the script of wedge-shaped characters devised in Mesopotamia in the early third millennium B.C. for incising on clay tablets with a reed stylus. The decipherment of cuneiform was a crucial

step in the development of studies of the early history of the region since until the texts could be read and understood, historical knowledge of ancient Southwest Asia had to rely on external sources such as the Bible or the Greek historian Herodotus. The complicated decipherment process involved solving two separate puzzles: the enigma of the script itself and the puzzle of the language or languages that lay behind it. The clue to decipherment lay in the grandiose rock-cut inscriptions of the Persian kings. By the end of the eighteenth century it was already realized that these inscriptions contained parallel texts in three different languages—as befitted the major memorials of the rulers of such a multilingual, multiethnic empire. The next breakthrough came in 1802, when German college lecturer Georg Friedrich Grotefend, working from copies, discovered that one of the three languages in these inscriptions was alphabetic, an early version of Persian (Old Persian).

Grotefend's findings were largely ignored at the time. The decipherment of cuneiform had to wait until the 1840s and the work of Henry Rawlinson at Behistun. The Behistun inscription, carved by the Persian king Darius, stands on a rock face high above the Hamadan-Kermanshah road (Figure 8.11). It was only in 1847, with the help of an agile Kurdish boy, that Rawlinson was able to take paper "squeezes" of the whole inscription. Ten years earlier, however, in 1835–1837, he had made his own careful copy of two of the texts (subsequently found to be in Old Persian and Elamite languages), and in 1846 he published a translation of the alphabetic Old Persian inscription that recorded Darius's victories over rebellious subjects.

FIGURE 8.11 The Behistun relief, proclaiming the victory of the Persian King Darius I (522–486 B.C.) over his enemies, and presenting parallel inscriptions in Elamite, Old Persian, and Akkadian, a crucial key in the decipherment of cuneiform script. Fine Art Images/Heritage Images/Getty Images.

The Elamite inscription was altogether more difficult, written in a syllabic script in which each of 123 signs represents a different syllable. Furthermore, Elamite is a dead language, related to no known spoken tongue. Despite these difficulties, with the help of the parallel Old Persian text deciphered by Rawlinson, Edwin Norris succeeded in deciphering the Elamite version of the Behistun inscription in 1855. Meanwhile, Rawlinson himself, assisted by Edward Hincks, worked on the 600 signs of the Babylonian (Akkadian) script. They were soon able to read not only the Behistun inscription but also the flood of clay tablets coming from Austen Henry Layard's excavations at Nineveh. These opened the way to a whole new understanding of the history, economy, religion, science, and literature of ancient Southwest Asia.

Summary

In this chapter we have followed the development of Southwest Asian societies from the collapse of the empires of Egypt and the Hittites in the thirteenth century B.C. to the formation of the ever-larger empires of the Assyrians and Persians in the ninth to sixth centuries B.C. The collapse of the Bronze Age empires was followed by the resurgence of the pattern of smaller kingdoms and city-states, such as those of the Israelites and Phoenicians, with their own languages, religions, and cultural traditions. During the ninth century B.C. these smaller polities fell under the influence and then the direct control of the Assyrians, who expressed their supremacy in the wealth and

political iconography of their imperial capitals, Nimrud, Khorsabad, and Nineveh. Beyond the limits of Assyrian control, however, other states rose and flourished, notably those of Phrygia, Lydia, and Urartu in Anatolia and of the Medes in Iran. If Babylonia and Assyria (Mesopotamia) were still the core of Southwest Asia in terms of population density, the peripheral regions became increasingly well organized in political and military terms. The conclusion arrived when the periphery—in the form of the Medes and Persians—took control of the core (Mesopotamia) and extended its power to the Aegean and Egypt. The Persian Empire was nonetheless a multiethnic entity, and within its frontiers the various tributary peoples such as Phoenicians and Babylonians retained much of their cultural identity.

PART IV

The Mediterranean World

Odysseus went to the glorious palace of Alcinous. There he stood, and his heart pondered much before he reached the threshold of bronze; for there was a gleam as of sun or moon over the high-roofed house of great-hearted Alcinous. Of bronze were the walls that stretched this way and that from the threshold to the innermost chamber, and around was a cornice of cyanus. Golden were the doors that shut in the well-built house, and doorposts of silver were set in a threshold of bronze. . .

Within, seats were fixed along the wall on either hand, from the threshold to the innermost chamber, and on them were thrown robes of soft fabric, cunningly woven, the handiwork of women.

—*The Odyssey*, Book VII, 80. Translation by A.T. Murray (1919)

CHAPTER 9

The First Aegean Civilizations

FIGURE 9.0 The “Lily Prince” fresco from the Minoan palace of Knossos, Crete. Kevin Wheal/Alamy Stock Photo.

The crowd looked on expectantly as the bull pawed the ground, then lowered its head and charged the young man directly in its path. For him, this was no suicide mission but the culmination of months of training. As the bull drew near, the athlete deftly seized it by the horns and vaulted onto its back. The bull, puzzled and frustrated, came to a sudden halt, and the athlete with one bound leaped clear, landed on his feet, and threw his arms out wide in a dramatic flourish. His hazardous feat was completed, and the crowd of onlookers—ruling elite, priests, palace officials, and ordinary townspeople—broke into applause. Behind them rose the multiple tiers of the palace of

Knossos, an impressive backdrop to this scene of ritual and athletic action. The bull had once again been overcome and outwitted by human ingenuity and skill.

CHAPTER OUTLINE

The Aegean Early Bronze Age (3200–2100 B.C.)
- *Early Minoan Crete*

Mainland Greece and the Cycladic Islands
- *Toward the First Palaces*

Minoan Civilization: The Palace Period (2100–1450 B.C.)
- *The Minoan Palaces*
- *The Political Geography of Minoan Crete*
- *Minoan Writing and Crafts*
- *Minoan Religion*

Crete and Its Neighbors

Mycenaean Greece (1600–1050 B.C.)
- *Palace-Based Polities*
- *The Political Geography of the Mycenaean Kingdoms*
- *Mycenaean Crafts*
- *The Mycenaeans Abroad*

After the Palaces: Postpalatial Greece (1200–1050 B.C.)

The bull-leaping ritual described above is depicted in the frescoes of the Minoan palace at Knossos, Crete. Young men and women alike took part in this perilous ritual, or so it seems—for some have doubted whether it is really possible to grasp the horns of a charging bull and leap over its back, suggesting that in real life the athletes approached the bull from the side. One carved stone vessel shows a young man transfixed by the horns of a bull, suggesting that some such dangerous acrobatic act was indeed part of Minoan palace ritual. But was it a real-life event that was being depicted, or some legendary feat? Some archaeologists have even argued that the bull-leaping frescoes represent the movement of constellations in the night sky, though the constellations themselves—and the names by which we know them—can

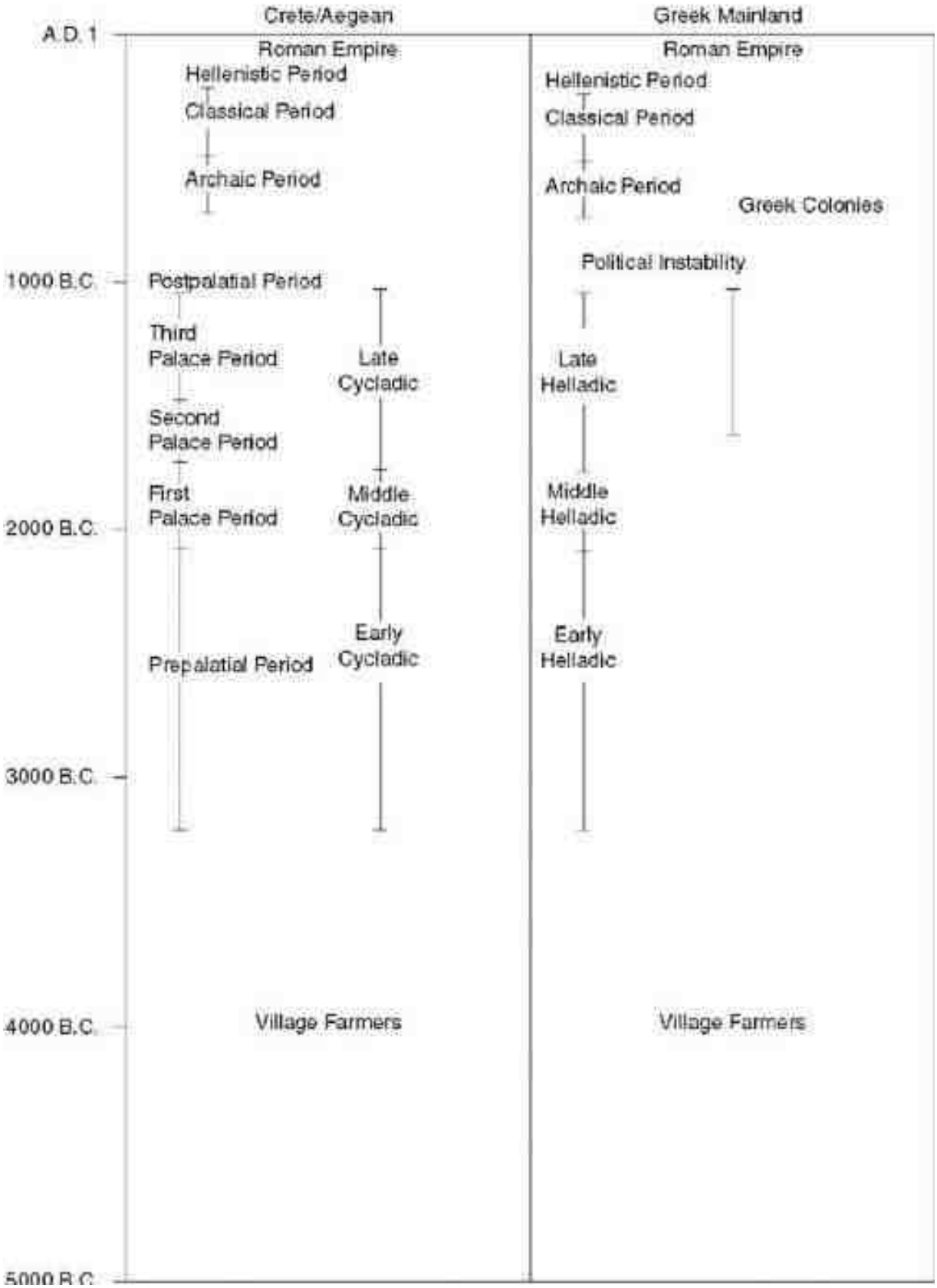
only be traced back with confidence to the last few centuries B.C., fully a thousand years after the Knossos frescoes were painted.

The meaning of the ritual—whether an initiation rite for young men and women or an annual reenactment of some mythological event—still escapes us, but the bull-leaping frescoes from Knossos have become a well-known feature of the Minoan civilization, which developed on Crete around 2100 B.C. It takes its name from Minos, the legendary king who ruled the seas with a powerful fleet and kept a bull-headed monster, the Minotaur, in his labyrinth at Knossos. This beast was annually fed seven youths and seven maidens, until it was slain by the Athenian hero Theseus. It used to be thought that there were memories in this legend of a real historical event—the takeover of Minoan Crete by the Mycenaeans from mainland Greece—for around 1450 B.C. the Minoan palaces were destroyed. Only Knossos was rebuilt, and the earlier situation of multiple centers was replaced by a period in which Knossos was the main center of power on the island. Furthermore, the Linear B texts found at Knossos show that when the palace rose again from the ashes, it was Greek from the mainland rather than the indigenous Minoan language that was being used by the palace scribes for their economic record-keeping. Whether there was any change in the language spoken by the ordinary people remains uncertain, however, and other recent evidence challenges the idea of a direct Mycenaean take-over.

This chapter describes both the Minoans and the Mycenaeans (see Table 9.1). They were the twin foci of an Aegean Bronze Age world that also included the island societies of the Cyclades. In chronological terms, Minoan civilization came first, its influence spreading widely through the Cycladic islands during the second millennium B.C. On the mainland, the separate, palace-based civilization of the Greek-speaking Mycenaeans arose during the sixteenth century B.C. (the period of the famous Shaft Graves, mentioned in Chapter 1). Mycenaean civilization in its formative stages owed a great deal to Minoan Crete. Mycenaean painted pottery, for example, was dependent in its development on Minoan styles, and Mycenaean luxury arts relied heavily on Minoan models and on traveling Minoan craftspeople. This is not to say that Mycenaean civilization was a mere copy of Minoan culture—that would be very far from the truth—but Minoan influence was clearly powerful. The positions were partially reversed, however, in the fifteenth century B.C., when the Mycenaeans took control of Crete. Thereafter, the Aegean fell increasingly under Mycenaean influence, a situation that continued until the

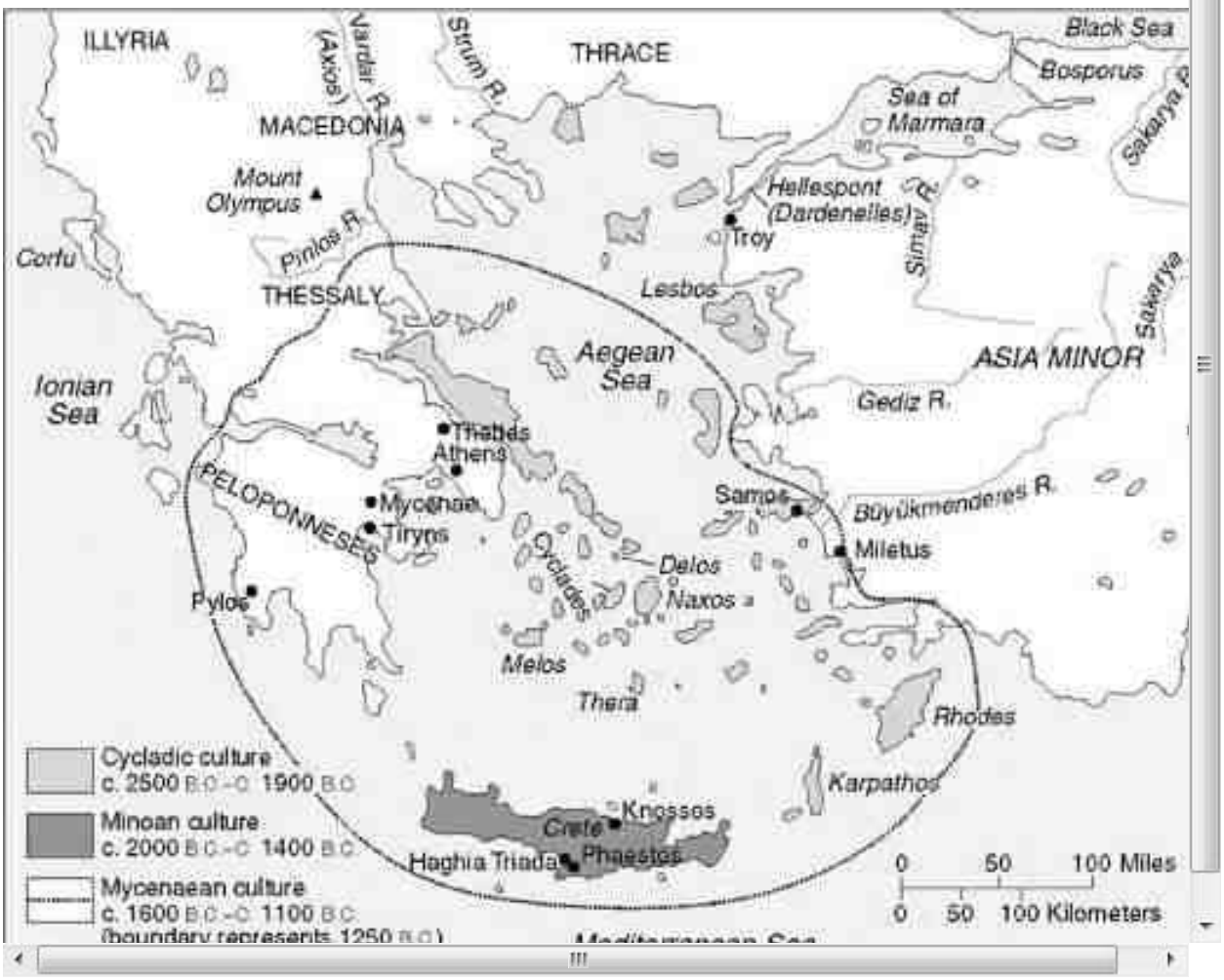
downfall of the mainland palaces around 1200 B.C. Crete and other regions retained their distinctive local identities, however, and did not simply become submerged in a broader Mycenaean world.

TABLE 9.1 Chronological table of Chinese civilizations


Crete/Aegean
Greek Mainland
A.D. 1
Roman Empire
Roman Empire
Hellenistic Period
Hellenistic Period
Classical Period
Classical Period
Archaic Period
Archaic Period
Greek Colonies
Political Instability
1000 B.C.
Postpalatial Period
Third
Palace Period
Late
Cycladic
Late
Helladic
Second
Palace Period
First
Palace Period
Middle
Cycladic
Middle
Helladic
2000 B.C.
Early
Cycladic
Early
Helladic
Prepalatial Period
3000 B.C.
4000 B.C.
Village Farmers
Village Farmers
5000 B.C.

This chapter begins with developments on Crete, the Cycladic islands, and the southern Greek mainland during the Early Bronze Age (3200–2100 B.C.) (see Figure 9.1).

FIGURE 9.1 Map of the Bronze Age Aegean, showing sites on Crete, the Cyclades, and the Aegean coast of Turkey.



THE AEGEAN EARLY BRONZE AGE (3200–2100 B.C.)

Early Minoan Crete

The island of Crete is long and mountainous, with peaks rising to 2,500 meters (8,000 feet). Within the rugged uplands lie sacred caves, one (Dikte) reputedly the birthplace of the classical god Zeus. To north and south of the mountain backbone, a handful of fertile plains stretch toward the coast and to the harbor towns on which, until air travel, the island depended for contact with the outside world. Crete indeed is relatively isolated within the southern Aegean. To the south, 320 kilometers (200 miles) of open water lie between it and the North African coast; to the north, the nearest of the Cycladic islands is some 80 kilometers (50 miles) distant. The Cretans were nonetheless great sailors, and from the third millennium B.C. onward there is evidence for sporadic, then regular, contact with Egypt and the Levant in the form of hippopotamus ivory and Egyptian stone vessels imported to Crete.

The third millennium on Crete is known as the Early Minoan or Prepalatial period.[1] This corresponds to the centuries before the construction of the first of the palaces for which Crete subsequently became so famous. Already at the end of the previous Neolithic period the first metals had begun to be used, notably copper. A characteristic Early Minoan metal item was the dagger, with rivet holes at the heel of the blade for attachment to a haft or handle. Such daggers are significant in two respects: First, they were clearly too small to be effective as weapons of war and were probably as much for display as for use (though even today Cretans usually carry knives for cutting all manner of things); second, the material from which they were made—copper mixed with arsenic—not only required craftsmanship but also was not widely available on Crete and must have been imported from an early date. At Chryssokamino in eastern Crete, Early Minoan craftspeople were importing copper ores from Cycladic sources such as Kythnos and smelting them to extract the metal.

The use of copper thus implies access to imported materials and specialized skills. It reinforces other evidence that suggests the gradual development of a more hierarchical society on Crete in the Early Minoan period. The strongest evidence comes from the graves. On the Mesara plain in the south, circular stone-built *tholos* tombs were built to hold communal burials. These tombs were probably family burial vaults, used over a period of several generations for the interment of family members. The number and character of the offerings placed with the dead becomes increasingly varied from one tomb to another, suggesting that there were growing differences of wealth between family groups. We can also point to the development of a

small number of larger settlements on Crete during the Early Minoan period. Most important of these was Knossos, in the center of the fertile northern plain, which had already been a much larger than average settlement in the preceding Neolithic period. By the beginning of the Bronze Age it covered as much as 5 hectares (12 acres). Similar Early Minoan settlements may lie beneath the later palaces at Mallia and Phaistos. Whether these medium-sized settlements were really the centers of emerging small kingdoms is far from clear, given our only sketchy knowledge of the remains. Size alone cannot tell us about the function or internal divisions of these sites.

MAINLAND GREECE AND THE CYCLADIC ISLANDS

Better evidence for emerging social complexity comes from mainland Greece and the Cycladic islands. At Lerna in the Peloponnese, a substantial Early Helladic mud-brick building known as the House of the Tiles stood within an enclosure wall with projecting, circular "towers." Doorways and stairs were made of timber, and the roof, as the name suggests, was of terracotta tiles and blue schist slates. Modest in scale (though much bigger than other buildings on the site), measuring 25 × 12 meters (82 × 39 feet), this building may have been the seat of a local ruler who controlled one corner of the fertile Argive plain during the second quarter of the third millennium B.C. Numerous sealings come from the House of the Tiles. These were produced by impressing a carved seal bearing a complex geometric design into the soft clay placed over the openings of boxes or jars to secure their contents. They denote some measure of ownership or administrative control, but their very diversity (seventy different seal patterns) makes it difficult to see them as evidence of anything approaching a centralized bureaucracy. They are more likely to have been simply personal signatures.

On the Cycladic islands, the pattern is similar—with signs of modest social complexity in the form of longboats and fortifications. Here again, however, it would not do to overinterpret the evidence. A number of settlements have fortifications, among them Skarkos on Ios and Kastri on Syros. At Skarkos, the Early Cycladic settlement covered an entire hilltop and the densely packed rectangular houses still stand two stories high. The fortifications at Kastri on Syros have circular stone towers and a maze of small buildings within the walls. Close by is the cemetery of Chalandriani, which has more than 650 graves. Most Early Bronze Age cemeteries of the

Cyclades have dozens rather than hundreds of graves, representing the burials of a nuclear family rather than a sizeable community, so Chalandriani is evidently exceptional. Its special status is underlined by the discovery of pottery objects known from their shape (but not their function) as "frying pans." These have richly incised decorations, including depictions of many-oared longboats, indicating perhaps the crucial role of sea traffic (possibly also piracy) in the prosperity of Syros. At least seven of the thirteen known frying pans come from Chalandriani, and the other six may also be from this cemetery.

Another striking feature of the Cycladic islands during the Early Bronze Age is the use of marble for vases and figurines. The figurines are especially distinctive in their repertoire of styles and have attracted the attention of art historians as well as archaeologists (Figure 9.2). Some, such as Patricia Getz-Preziosi, have gone so far as to suggest they can identify the work of particular sculptors. She has even assigned names to the supposed sculptors (based on museums where examples of their output are displayed), such as the "Berlin Master" or the "Goulandris Master." This places the figurines on the same footing as later artworks like classical vases or Renaissance paintings. It is much more likely that these relatively simple Cycladic figurines were the work of small-scale local craftspeople. Many people today have admired the purity of line of these white marble carvings, which has given them inflated values in the international art markets and encouraged the large-scale looting of the island graves in which they were deposited. The purity of appearance is in any case largely deceptive: Traces of paint show that the figurines were originally brightly colored, probably in a garish style that highlighted facial features and clothing; and several marble palettes and pigment pots have been found to support this.

FIGURE 9.2 Cycladic marble figurine of the classic "folded arm" type. These figurines have sometimes been found in graves, though many have been looted from unknown locations for sale on the international antiquities market in recent decades. The high prices that they command have fueled the illegal traffic, and the looting has destroyed much of the evidence about their original purpose and significance. Traces of paint preserved on some figurines suggest that the surfaces may

originally have been brightly colored, c. 2500 B.C. DEA/G. DAGLI ORTI/Getty Images.

Within this Early Bronze Age world, one small island appears to have assumed a special role. Keros is one of the more barren of the Cycladic islands, unable to support permanent settlement today, yet at its eastern tip the site of Kavos has the greatest known concentrations of Cycladic marble figurines. The recently excavated “South Deposit” yielded no fewer than 550 marble figurine fragments and 2,300 marble bowl fragments. All of these had

been deliberately broken and discarded during ritual performances on other islands, then brought to Keros for final (and careful) disposal. A few meters offshore, the small islet of Dhaskalio supported a terraced settlement of rectangular houses, its early phase (2750–2550 B.C.) contemporary with the Kavos sanctuary. This was clearly a place of congregation or pilgrimage, attracting visitors by sea from throughout the surrounding area.

Toward the First Palaces

On Crete itself, most Early Bronze Age settlements were small villages of around half a dozen households. A famous example is Myrtos, on the south coast. Myrtos was initially interpreted as a special site, a "mansion," with coordinated functions that indicate a move toward a palace-type economy. Re-analysis, however, has suggested that it was not a protopalace but simply a cluster of ordinary houses built against each other. At Knossos, Phaistos, and Malia, however, it is clear that the open central courts were already in existence during the Early Bronze Age, and at Knossos indeed the central and west courts may have been laid out before the end of the Neolithic. Hence, the palace-based structure of Minoan Crete had deeply rooted origins.

There is also evidence of social change in the tombs during the Early Minoan period, especially in eastern Crete. At Mochlos, for example, a small number of more elaborate tombs contained gold diadems and other valuables, whereas the majority of tombs were simpler and more poorly furnished. These were family burial places, so they must have been particular families who were gaining special status in society. Some have argued that a ruling elite had already emerged in some parts of Crete several centuries before the beginning of the Middle Minoan period—the age of the first palaces. It is possible, however, that Minoan society never developed into a consolidated centralized state (or group of states). The palaces may not have been royal residences, but ceremonial centers for competing local lineages.

MINOAN CIVILIZATION: THE PALACE PERIOD (2100–1450 B.C.)

Cretan palaces appear suddenly in the archaeological record, but as we have seen, the foundations for the new developments must have been laid over preceding centuries. It was only in the Middle Minoan period, however, from

around 2100 B.C., that palace centers are evident at key points throughout the island, notably at Knossos and Mallia in the north and Phaistos in the south. These first palaces were joined in the Second Palace period (beginning c. 1700 B.C.) by Zakro in the east, and other palace sites are suspected in the center and west of the island. Each was probably the administrative and political center of a small state or province, though as we have just observed the function of the palaces themselves—ritual complexes or royal residences—remains far from clear, and the term "palaces" should be used with caution.

In the 1970s, British archaeologist Colin Renfrew emphasized an interlinked series of factors to explain the rise of the Minoan palaces—intensification of agriculture, growth of foreign trade, and increased craft specialization (see Chapter 2). Renfrew's argument was that these factors interacted with one another in a positive manner, by the process of "positive feedback," to magnify and accelerate the scale of change (what he called the "multiplier effect"), resulting in the formation of palace-based states. Some parts of this model are now generally discounted. It implies, for instance, a steady evolution of complex society on Crete during the Early Minoan period—something that the available evidence does not support. Renfrew also ascribed an important role to vines and olives. These are not grown on the same land as cereals and therefore do not compete with them. Renfrew proposed that the introduction of domesticated vines and olives in the Early Bronze Age allowed a substantial expansion in the amount of land under cultivation and helped to power the emergence of complex society. Some archaeologists and paleobotanists have recently questioned this view, pointing out that available evidence for cultivated vines and olives does not show their presence much before the Late Bronze Age. It is difficult to date their introduction with confidence from the scanty preserved remains, however, and some element of agricultural change would have been essential to support the larger population of palace-period Crete. Furthermore, elaborate drinking vessels appear in Crete during the Early Bronze Age and may indicate that the Cretans were already drinking wine at that period. Ritualized drinking and feasting were an important feature of Minoan society during the Palace period, and these special vessels suggest that the practice may have its roots in the third millennium B.C. Communal eating and drinking may have been one of the mechanisms that led to the development of more formalized and hierarchical power structures. But there is no firm evidence of extensive agricultural expansion on Crete during the Early Bronze Age.

Agricultural change, rather than the driving force of Cretan state formation, was probably just one of several associated factors, along with social and ideological developments.

The Minoan Palaces

The Cretan palaces—and Minoan civilization as a whole—have been known to archaeologists little more than a hundred years. The discovery is usually attributed to British archaeologist Sir Arthur Evans, who began digging at Knossos in 1900, although in fact, a local Cretan enthusiast—appropriately named Minos Kalokairinos—had already uncovered parts of the palace some twenty years before. Evans dug systematically at Knossos from 1900 to 1905 and then intermittently for more than twenty-five years, revealing large areas of the palace complex. It was first thought that this was another Mycenaean palace, similar to those excavated by Schliemann at Mycenae and Tiryns on the mainland, discussed later in this chapter. Within a few years, however, Evans had come to quite a different conclusion—that what he was dealing with was not Mycenaean but a new civilization, which he termed Minoan after Minos, the legendary king of Crete.

The palace revealed by Evans was indeed an impressive structure (see Figure 9.3). Spread over several hectares on the sloping edge of the earlier tell, it consisted of ranges of rooms around a rectangular central court, with a second court to the west. The key to the overall layout was the central open court, the heart of the palace. This gave access to all the other areas, which were basically arranged in a radiating fashion around it. The plan is an unusual one—very different, for example, from the megaron palaces of Mycenaean Greece.

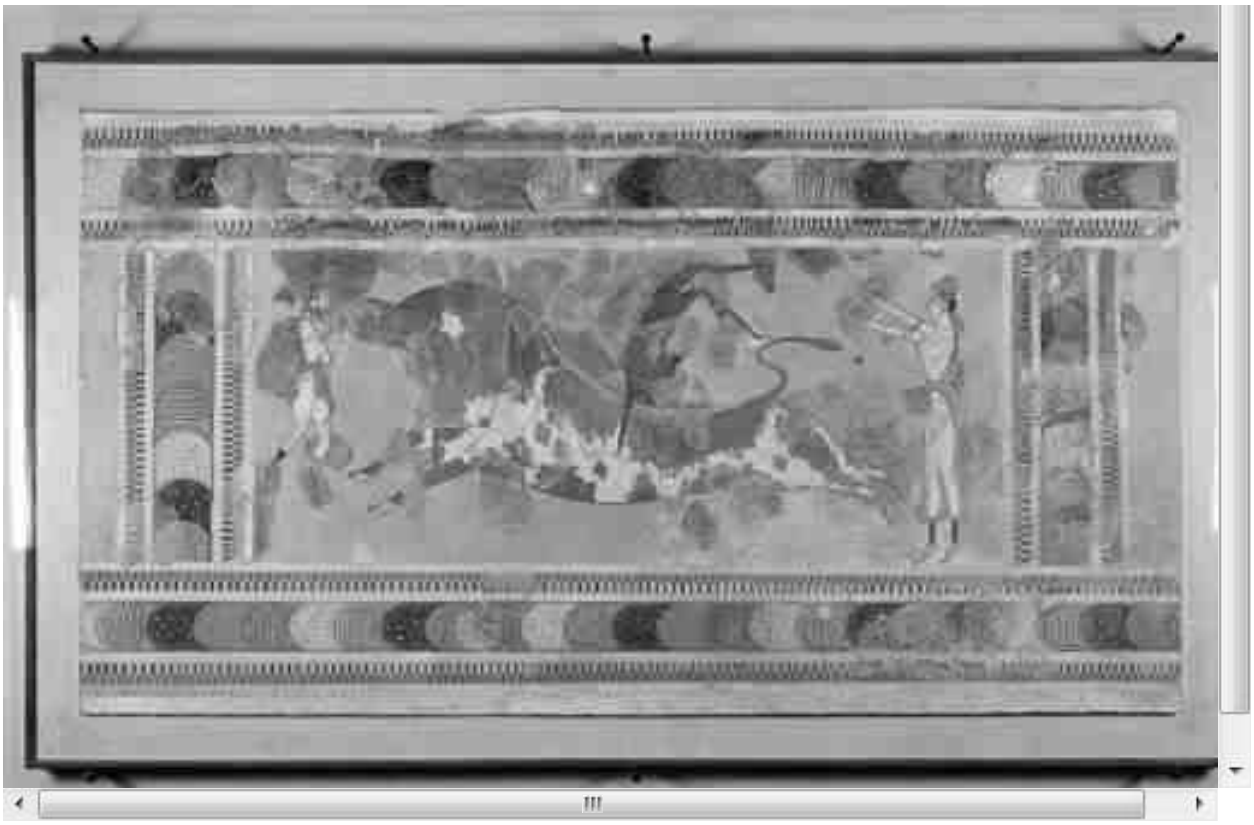
FIGURE 9.3 Reconstruction of the palace of Knossos, Crete. The Art Archive/Private Collection Paris/Gianni Dagli Orti.

The ground floors of Minoan palaces were constructed of rubble, faced with ashlar and reinforced with timber tie-beams as a precaution against earthquakes, which are a feature of the region. Indeed, the first Knossos palace was destroyed by just such an earthquake around 1700 B.C. Upper floors, too, were timber-reinforced, with doorways and architectural details made of stone or wood. Mud-bricks were also used in the palace at Mallia. At Knossos, during the Second Palace period (and possibly earlier), the appearance of the rooms was transformed by the extensive use of painted plaster to produce the frescoes for which the site is justly famous, though many of those visible today belong to the later, Third Palace period. Surprisingly, there is little evidence of similar decorations at any of the other major palaces, but traces certainly remain at several of the “villas” (smaller palatial sites) such as Tylissos, Amnisos, and Ayia Triada. And there are elaborate wall paintings, surely Minoan-inspired, at such island sites as Phylakopi on Melos and Akrotiri on Thera.

The wall paintings at Knossos included both geometric and naturalistic designs. The walls of the ceremonial rooms were often divided horizontally into three painted bands, with plain colors or patterns above and below, framing a central band of figured scenes. Those with human figures were mainly religious or ceremonial in character. These included the famous “bull-

leaping” frescoes (see Figure 9.4) or the long *Procession Fresco*, showing gifts being brought to a female figure. Other paintings were naturalistic in character—notably the well-known Dolphin scene (probably, in fact, a floor decoration) from the so-called “royal apartments” in the southeast corner of the palace.

FIGURE 9.4 Bull-leaping (Toreador) fresco from the palace at Knossos, Crete, showing a man vaulting over the back of a charging bull and a woman standing behind with outstretched arms, waiting to catch him. Sir Arthur Evans assumed that white figures were female and reddish-brown figures were male but this attribution is now disputed, and the color conventions of Minoan art are not always clear. The figure on the left, grasping the horns of the bull, is wrongly reconstructed and probably comes from another fresco. Minoan, c. 1450–1400 B.C. Archaeological Museum, Heraklion, Crete, Greece. Copyright Marie Mauzy/Scala, Florence.



The question of the royal apartments introduces one of the key problems in the analysis of the Minoan palaces: interpreting the function of the various rooms. Those of utilitarian character, such as the ground-floor rooms with rows of storage jars, are straightforward. They held materials like grain, beans, and olive oil, which probably came to the palace as tax or tribute or as the produce of palace-held farmlands. The extensive storage facilities show that the palace was designed to play a key role in the agricultural economy as consumer, producer of processed goods, storer of surpluses, and regulator of distribution.

On the west side of the main court was a series of rooms of ritual or ceremonial importance, including the famous Throne Room with its carved gypsum throne set against the center of one wall and flanked by frescoes originally showing plants but later replaced by recumbent griffins. Here again Evans’s interpretation may seem reasonable. We are on much less-secure ground concerning his hypothesis about the function of the rooms in the southeast corner of the palace. Here, at the first-floor level, reached by what Evans called the Grand Staircase, were a series of rooms that he believed were used by the royal family who ruled at Knossos, notably the Queen’s

Megaron with adjoining bathroom; an adjacent corridor led to a lavatory with a wooden-seated toilet that discharged directly into a drain with provision for flushing. The hypothesis that the palace at Knossos was built by a ruling family may not in itself be farfetched, but the attribution of these particular rooms to a queen, well-appointed though they were, is more a flight of fancy than an archaeological fact.

While the occupancy of the individual rooms remains open to debate, the important ritual dimension of the palace is beyond question. Studies of the Knossos Throne Room, for example, have shown that it was designed to incorporate special sunlight effects at different times of the calendar year. The Throne Room is preceded by an antechamber with four doorways. At dawn on the midwinter solstice, the rising sun shines through the southernmost of these doors to rest directly upon the throne in the room beyond. This theatrical effect may have been designed to enhance the drama of midwinter ceremonies carried out at the throne. At midsummer sunrise, by contrast, light shines through the northernmost of the antechamber doors and illuminates the lustral basin in the room behind the Throne Room. Here again, we may envisage rituals and ceremonies held at this specific time of year. Similar features are found at other Minoan palaces, and indicate a specific concern with solar events.

The architecture and layout of the Minoan palaces hence suggests many of their features were designed to serve as the theaters for ceremonial displays or mythological re-enactments. Wall paintings may depict such events, including the famous (though controversial) bull-leaping frescoes. Centralization of political control may have strengthened in the Second Palace period (c. 1700–1450 B.C.), though strikingly, it should be noted that individual rulers are represented neither in life nor in death.

The Political Geography of Minoan Crete

The government of Knossos raises the issue of the political geography of Minoan Crete. While some see Knossos as the center of a pan-Cretan state at this period, others argue that second millennium Crete may have been populated by competing factions distributed across the landscape, a structure in which palace-based public ceremonies played a crucial role. Alternatively, the palaces may have been monumental communal structures built by and promoting cohesion among a number of corporate groups.

The palace of Knossos that the visitor now sees is essentially a structure of the Third Palace (Mycenaean) period, though it follows earlier palaces of Middle and Late Minoan date on the same site. Similar palaces of Middle or early Late Minoan date are known from other parts of the island, notably Mallia in the north, Zakro in the east, and Phaistos in the south. There may have been other such centers at Khania in the west and at Galatas inland; there was certainly an important center at Khania in the Mycenaean (Third Palace) period. The existence of a number of contemporary palaces suggests that Crete was divided into a series of autonomous political units, each centered on a major palace.

The palaces of Minoan Crete provide an excellent case for the theory of "peer polity interaction." This approach argues that states (polities) that are in contact will influence one another's development as ruling elites seek to emulate and surpass their neighbors. The striking similarities among the different Cretan palaces and the artifacts found in them (even painted pottery styles) might well be explained by such a process of interaction.

In addition to the palaces, there were substantial towns. At Knossos, the town covered an area of 75 hectares (185 acres) around the palace and must have been a populous settlement, although we do not know how densely built up it was. Not all Minoan towns were centered on major palaces. No palace has yet been discovered at Palaikastro in eastern Crete, the largest excavated Minoan town. Gournia on the north coast, the best-preserved Minoan town, has regular blocks of houses ranged along cobbled streets with only a modest palace or governor's residence overlooking a public square. We may imagine that these towns, with their small palaces, were centers of local administration. Some idea of the houses' appearance can be gained not only from excavation of their ground plan but also from artistic depictions such as the "town mosaic" found at Knossos. This series of faience plaques shows two- or three-story structures strengthened by timber-reinforcing beams with windows on the upper floors.

In addition to towns and palaces, the political geography of Minoan Crete incorporated a third category of site known as the "villa." Much smaller than the palaces but often incorporating palatial features (architectural refinements, luxury objects, and cult equipment), these, too, seem to have been centers of local administration. They appear only in the Second Palace period (1700–1450 B.C.) and were probably the residences of local lords or high-ranking officials, but they also had storerooms for agricultural produce.

One of the best-preserved villas, at Vathypetro, south of Knossos, was equipped with presses for wine and olive oil, underlining its role in the local economy. In addition to agriculture, however, some of these sites show considerable evidence for ritual activities. Nirou Khani, for example, with bronze double axes and altar, may have been an important rural religious center.

Minoan Writing and Crafts

The Minoans used three major scripts, usually inscribed on clay tablets. Only the most developed of the three (Linear B) has been deciphered. The earliest script, commonly called hieroglyphic, came into use around 2000 B.C., near the beginning of the Palace period. It remained in use during the First Palace period. The script known as Linear A, developed during the eighteenth century B.C., became the standard Cretan script of the Second Palace period (from 1700 B.C.) and is also found on a number of Cycladic islands, including Melos and Santorini, and at Miletos on the west coast of Turkey. Examples have also been found as far afield as Tell Hazor and Lachish in Israel. Linear A was inscribed on clay tablets, clay labels, stone offering tables, and jewelry. Although the script cannot yet be read and we do not even know what language it represents, the patterns of signs on the tablets suggest that they are generally lists of commodities—in some cases, taxes or inventories of stores; in others, records of offerings due to the gods. Linear A tablets are relatively rare finds but show that the palaces in Crete were run by a literate bureaucracy of scribes or clerks. The short texts on jewelry and offering tables suggest that Linear A was also used in ritual contexts.

The third Cretan script is known as Linear B. It originated from Linear A but was adapted to the needs of the early form of Greek spoken by the Mycenaeans. It was used at Knossos (and on the Greek mainland) during the Third Palace period.

We have already seen in the construction of the Cretan palaces and the sophistication of the colorful frescoes the evidence of Minoan craft skill. Some of the finest examples are smaller objects such as pottery, gemstones, and figurines. The Minoans were consummate potters, producing high-quality thin-walled vessels and painting them with imaginative polychrome decorations. Stylized scenes of plants and marine life, beginning on the fine Kamares ware of the First Palace period, are among their most famous

products. Some of the most elaborately decorated pottery was no doubt produced in the palace workshops and intended for the elite. Changing styles of painted pottery form the backbone of traditional Minoan chronology, though it is sometimes uncertain how far the styles are truly successive (rather than contemporary or overlapping), and it is very difficult to assign absolute dates or durations to the various phases on this basis alone. But the painted pottery serves above all to divide the Cretan Palace period into its traditional phases.[2]

Painted pottery, of course, represents only the finest wares, but even utilitarian vessels were skillfully made. At the other end of the scale, Minoan craftspeople also made vessels of gold and silver or carved from attractive stones like serpentine and banded marble. They produced finely carved gemstones and ivories, too, notably a male statuette of ivory covered with gold leaf from Palaikastro in east Crete. Knowledge of faience working is shown by the snake-goddess figurines from Knossos (see Figure 9.5).

FIGURE 9.5 Faience figurine of the so-called “Snake Goddess,” found along with other cultic objects in a stone-lined storage container sunk into the floor of the one of the palace rooms at Knossos. Height 29.5 centimeters (11.6 inches), c. 1600 B.C. PRISMA ARCHIVO/Alamy Stock Photo.

Minoan Religion

Our knowledge of Minoan religion comes from ritual equipment (including figurines) and other artistic depictions on frescoes and sealstones and from the remains of Minoan shrines. Archaeologists have identified two contrasting types of Minoan shrine. The first are those in the palaces and villas, stone rooms or buildings with benches and basins for offerings. Figurines of deities such as those from Knossos may well have been displayed in these shrines.

The second type of Minoan shrine is in a natural setting, on a hilltop or (more rarely) in a cave. Some twenty-five hilltop, or "peak," sanctuaries are known, most of them dating to the First Palace period (c. 2100–1700 B.C.). Two of the most elaborate, Jouktas and Petsophas, were associated with the nearby centers of Knossos and Palaikastro, respectively, and may in a sense have been "state" shrines. In southeast Crete the sanctuary at Kato Symi was of special importance with inscriptions in Linear A script, had many bronze figurines of both sexes, but especially male. More numerous were the simpler peak sanctuaries, such as that excavated by British archaeologists Alan Peatfield and Christine Morris at Atsipadhes in western Crete. Here there was no evidence for any building; the nearest thing to a structure was an area of pebbles, brought to the site from the valley floor below, in the middle of which an upright stone or similar sacred object had once stood. The most striking and abundant finds from Atsipadhes, however, are some 5,000 figurine fragments. These are mainly of cattle (especially horns and legs), but there are also human figurines, including both whole figures and votive limbs. The site itself, like other peak sanctuaries, is relatively difficult to access and distant from lowland settlements. It may have been visited only during special festivals, when local people walked to the shrine, made offerings there, and left votive figurines to remind the deity of their particular needs, whether these related to their animals or to their own bodily health.

Box 9.1 Sites *Dating a Bronze Age Catastrophe*

Akrotiri, on the Cycladic island of Santorini (Thera), has been labeled the "Pompeii of the Aegean." Early in the Late Bronze Age, this small town was buried in a volcanic eruption beneath several meters of ash and pumice. So quickly did the volcanic deposits accumulate that they have preserved the remains of houses still standing to a height of two or three stories, complete in many cases with colorful frescoes of scenes from ritual and daily life (Figure 9.6). Quite when this catastrophe occurred is the subject of heated and continuing debate. The pottery from the latest occupation at Akrotiri is of Late Minoan (LM) IA type. This has usually been dated to the mid-sixteenth century B.C. on the basis of finds of LM IA material in dated Egyptian contexts. Scientific techniques, however, have been argued to give a much earlier date for

the Santorini eruption. Large volcanic events emit enormous quantities of ash, which circulate in the upper atmosphere for many months, blocking the sun's rays and causing a nuclear winter effect over large areas of the northern or southern hemisphere. Hence, the Santorini eruption should be visible in climatic records such as peat bogs and tree rings. There was thus great excitement when teams of scientists discovered a period of markedly narrower tree rings in material from both California and Northern Ireland, beginning in 1628 B.C. These suggested that periods of cool weather lasted over several years, consistent with the effects of atmospheric dust. Others identified sulfur peaks in Greenland ice cores, dating to the mid-seventeenth century B.C. that were thought to be the result of sulfur emissions from a huge volcanic eruption. Using this and related evidence, a number of archaeologists proposed 1627–1628 B.C. as the date of the Santorini eruption; they believed that the conventional chronology of the Aegean Late Bronze Age, based on links with Egypt, was simply wrong. This claim was subsequently thrown into doubt by studies of volcanic glass trapped in the Greenland ice core, which showed it to differ in composition from the Santorini material; the 1628 B.C. eruption has recently been identified instead with the Aniakchak II volcano in Iceland. Nonetheless, other evidence still suggests that the Santorini volcano may indeed have erupted in the late seventeenth century B.C. What impact this event may have had on Minoan Crete and the Aegean islands area remains uncertain. The dramatic scenarios proposed by earlier writers, who envisaged tidal waves sweeping down onto the Cretan coast and ash clouds covering the eastern end of the island in pumice, are now largely discounted. The Santorini caldera is thought to have collapsed gradually, in piecemeal fashion, after the eruption, and would not have created the huge waves once envisaged. Whether the effect of the Santorini eruption was sufficient to disrupt the Minoan economy and render the island vulnerable to Mycenaean invasion is still unresolved.

FIGURE 9.6 Houses of the Late Bronze Age town of Akrotiri on the island of Santorini, preserved through being buried by the ash and pumice from the volcanic

eruption of the late seventeenth century B.C. Gianni Dagli Orti/The Art Archive at Art Resource, NY.

Peak sanctuaries such as Atsipadhes are essentially shrines for local people and are scattered throughout the mountainous uplands of Crete. A significant change takes place during the Second Palace period (c. 1700–1450 B.C.), when most of the peak sanctuaries fell out of use. The six or eight that continued to flourish were all associated with palatial centers. Thus, there appears to have been a suppression of local cults in favor of more centralized religious observance.

The objects of worship, gods or goddesses, are difficult to identify. One sealstone shows a goddess in flounced skirt standing on top of a mountain and flanked by dogs or felines. We have already mentioned the faience

female figurines from Knossos, bare-breasted, with snakes on their arms or in their hands. A little later in date, the Linear B texts from Knossos mention offerings to the gods as well as "priestesses of the winds," and Minoan art shows scenes of animal (especially bull) sacrifices. The importance of religion in Minoan society is clear, as well as efforts by the state to harness it as a source of authority, but the details of cult and belief remain hazy.

CRETE AND ITS NEIGHBORS

The Minoans were able sailors and kept in close contact with surrounding lands. Most of their metal (copper, lead, and silver) came from the deposits at Laurion in Attica, on the Greek mainland. Ivory, gold, and other luxury materials may have been imported from Syria, Mesopotamia, and the Levant. Cretan merchants were known in Egypt, as tomb paintings of people from an island named Keftiu confirm. A remarkable and much closer link with Egypt is shown by recent excavations at Avaris, a city site on the eastern edge of the Nile Delta. Here a rubbish deposit yielded fragments of a Minoan-style fresco, depicting a typically Cretan bull-leaping scene. Avaris was the capital of the pharaoh Amenhotep I as Ahmose during the seventeenth century B.C. (see Chapter 4). They may have had particularly close links with Crete. Fragments of similar wall paintings—again clearly of Minoan inspiration—have been found at Tel Kabri in Israel, Qatna in Syria, and Alalakh in southeast Turkey. These may have been created by Minoan artisans living overseas, and could be part of a shared courtly culture of the seventeenth century B.C. Like the Uluburun shipwreck (see Box 9.2), they testify to the international connections that characterized the Aegean and East Mediterranean world at this period.

Minoan culture had enormous influence in the Aegean islands, especially the Cyclades immediately to the north. There has been great debate about whether the Minoans actually controlled the Cyclades, or some of them, during Middle and Late Minoan times. Minoan-style frescoes occur in the islands, notably at Phylakopi on Melos, Ayia Irini on Kea, and Akrotiri on Santorini (see Box 9.1). Fragments of Linear A tablets also come from Phylakopi and other Cycladic sites, even though it is unlikely that Cretans and Cycladic islanders spoke the same language. Later Greek legends tell of a Minoan "thalassocracy," a maritime empire based on a powerful Cretan navy, but whether this is based on historical reality and, if it is, whether that reality

relates to the Minoan period are questions that are difficult to answer from archaeological evidence alone.

Crete's relations with the outside world took on an entirely different aspect early in the Late Bronze Age. The major palaces had already been severely damaged by an earthquake c. 1700 B.C., which marks the division between the First and Second Palace periods. A second destruction occurred at the end of the Second Palace period, when all the major palaces except Knossos were abandoned. The villas, too, were destroyed. When the dust settled a new administration was in place at Knossos, and the palace officials were using a new script, Linear B. This is now known to record an early form of Greek, the language used by Mycenaean rulers on the Greek mainland. It used to be believed that, early in the Late Bronze Age, Mycenaeans took control (either peacefully or by force) of the island of Crete, ousting the earlier Minoan rulers with their non-Greek language. Recent analysis of strontium isotopes in so-called "warrior" graves around Knossos that date to this period shows that, although the burial practices resemble those of the Greek mainland, the graves are those of local Cretan people. Hence, rather than violent conquest, Crete may voluntarily have become part of the expanding Mycenaean world.

MYCENAEAN GREECE (1600–1050 B.C.)

The Mycenaeans take their name from Mycenae, the important citadel in the eastern Peloponnese, which was excavated by Schliemann in 1876–1877 (see Chapter 1). What he discovered in the Shaft Graves were the burials of the ruling elite who had governed Mycenae at the very beginning of the Late Bronze Age, in the early sixteenth century B.C. (see Figure 9.7). The graves are among the earliest evidence of the change that the mainland experienced at this time, from the relatively unprepossessing Middle Helladic period to the Late Helladic, with fortresses, palaces, impressive tombs, and rich grave goods. These new features characterize the Mycenaean period (1600–1050 B.C.).

FIGURE 9.7 Gold "Mask of Agamemnon" from the Shaft Graves at Mycenae. "I have gazed on the face of Agamemnon," telegraphed Heinrich Schliemann to the king of Greece in

1876 when he opened the fifth of the Shaft Graves at Mycenae. According to Homer, Mycenae was the seat of the Greek leader Agamemnon, who led the expedition against Troy. Just within the Cyclopean walls, Schliemann came upon five rectangular, rock-cut pits, which contained the remains of 19 individuals accompanied by lavish offerings of gold. A sixth was discovered by his assistant the following year. Some of the bodies had gold face-masks over the skulls. Schliemann, ever the romanticist, identified the finest of these as the "Mask of Agamemnon." We know now that this is a chronological impossibility. The Agamemnon who took part in the Trojan War must have reigned in the thirteenth century B.C. The leaders buried in the Shaft Graves lived some three centuries before, at the beginning of Mycenae's greatness. They provide graphic evidence for the rise of elite rulers in sixteenth-century Greece, an event that marks the opening of the Mycenaean period. Heritage Image Partnership Ltd/Alamy Stock Photo.

The Mycenaean centers of mainland Greece were heavily influenced by Cretan developments but arose from a very different social background. Early Minoan society, as we have seen, consisted of competing local lineages. In Mycenaean Greece, by contrast, the elaborate and richly furnished graves (including the Shaft Graves of Mycenae, and *tholos* tombs) indicate an emphasis on leadership and lineage. The Mycenaean palaces emerge from a background of dispersed settlement, a handful of large fortified sites, and tumulus burials. The Mycenaean "states" (if such they were) represent the growing importance of hereditary leaders supported by the control of goods and surpluses and also—importantly—by warfare. Ritual and symbolism were adopted from Crete but played a less-prominent role in creating and maintaining the power of the ruling elites than they had in Minoan society, although shrines and cult centers became more important as the period progressed. In Mycenaean palaces, the public ceremonial spaces are not on

the same scale as those of the Minoan palaces, though Tiryns had a central court through which processions may have passed on their way to the Throne Room. It is interesting to observe, however, that not all regions of Mycenaean Greece were palace-centered, and other kinds of social and political organization must have existed. Palaces may not even have dominated even in "palatial" regions, but could have been the fortified residences of leading lineages.

The landscape of mainland Greece makes it ideal for the development of autonomous, small-scale kingdoms. Mountains break the terrain into fertile coastal plains, each of which could naturally form the focus of a separate state. These kingdoms first became visible at the beginning of the Late Bronze Age, when the elites who governed them began to engage in long-distance trade with the hinterland of Europe and to proclaim their wealth and power through the richness of their grave goods. It was only in the later Mycenaean period, however, that writing was adopted for the administration of these kingdoms. Here, as in many other areas of life, the Mycenaeans owed a great debt to Minoan Crete. The Linear B script of Mycenaean Greece is indeed an expanded version of Minoan Linear A adapted for the Mycenaean language.

The best-known sites of Mycenaean Greece are the major centers of Mycenae, Tiryns, and Pylos. Mycenae, as we have seen, was first excavated by Schliemann in 1876; significant work at Tiryns followed soon after in 1884. Both sites proved to be heavily fortified citadels built on rocky eminences. The enclosure or fortification of settlements on the Greek mainland goes back at least to the Early Bronze Age (third millennium B.C.), but the Mycenaean structures are on an altogether larger scale. Most impressive of all are the Cyclopean defensive walls of Mycenae, Tiryns, and Gla. The term *Cyclopean* refers to the use of large stone blocks carefully fitted together and takes its name from the legendary Cyclops, a race of giants. At Mycenae itself the Cyclopean enclosure is entered through a gateway of still more massive construction, with monolithic jambs and lintel and a "heraldic" sculptured relief panel above the gate that depicts lions supporting a column (Figure 9.8). Such walls reflect a serious concern with defense and security. The military character is enhanced by the careful disposition of bastions and postern gates. Defenses were not always built entirely of stone, however; the wall of Mycenaean Thebes was largely constructed of mud-bricks, although it rested on a stone foundation.

Furthermore, it seems that some centers lacked defenses of any great substance; none were found at Pylos, for example. This raises the possibility that the western Peloponnese, where Pylos is located, was more peaceful than other parts of Mycenaean Greece: the Argolid, Attica, or Boeotia.

FIGURE 9.8 The Lion Gate at Mycenae, the principal entrance into the fortified citadel. The gate takes its name from the sculptural group above the entrance, which shows a pair of lions on either side of a pillar. What originally stood on top of the pillar is unknown, but the lions are clearly merely heraldic supporters in the overall scheme. Note the massive "Cyclopean" blocks used in both the gate and the wall to its left. Sean Gallup/Getty Images.

Natural citadels such as Mycenae were probably fortified from the outset of the Late Bronze Age, as early as the sixteenth century B.C., but the first major fortifications in Cyclopean style, here and at other sites, are only dated to the fourteenth century B.C. The first Mycenaean palaces date to the same period. Early in the thirteenth century, the needs of defense seem to have

escalated. The walled area was enlarged at both Mycenae and Tiryns. At Mycenae, a new length of walling was built to enclose the southern slopes of the citadel. Grave Circle A, with the famous Shaft Graves, was thus brought within the fortified perimeter, probably so that the lords at Mycenae could associate themselves with these ancestral graves for the confirmation and legitimation of their power. It is not a coincidence that this was done when conditions started to become less secure. The more recent *tholos* tombs still lay outside the walls. At Tiryns, the fortifications were both extended and elaborated—extended to take in the lower citadel on the northern part of the ridge, and elaborated with the construction of massive new bastions provided with rows of arrow loops for a more active kind of defense (see Figure 9.9a and b).

FIGURE 9.9A Tiryns: plan of citadel showing its development during the fourteenth and thirteenth centuries B.C., to the final phase (at bottom) when a banqueting hall was built among the ruins of the now-destroyed upper citadel.

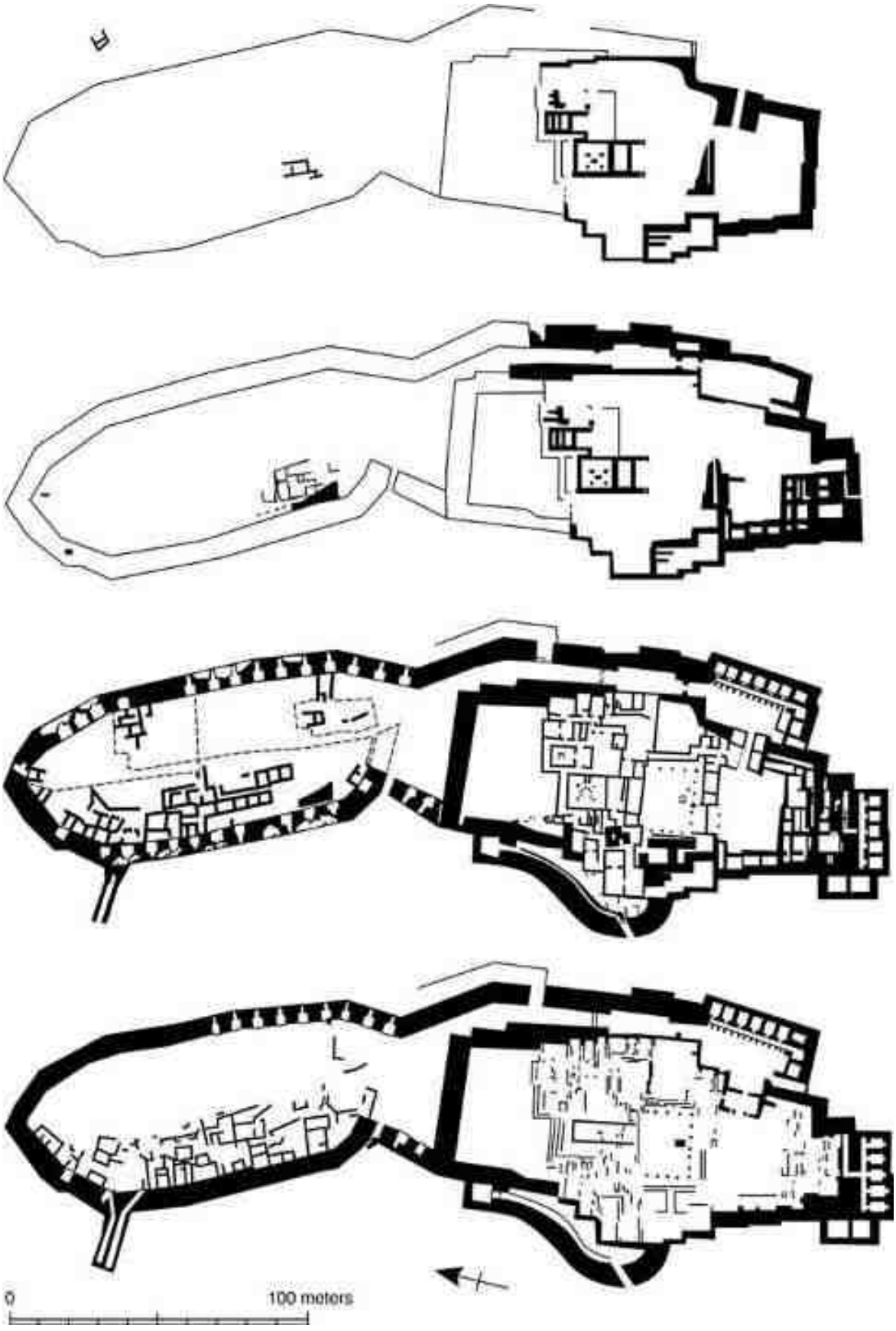

0
100 meters

FIGURE 9.9B Tiryns: photo of archery casemates. Chris Scarre.

Mycenaean fortifications varied considerably in the extent of the area they enclosed. The largest, Gla, had walls almost 3.2 kilometers (2 miles) long, though this unusual site was perhaps a special military installation. At Thebes, too, it seems that the defensive wall encircled the whole of the site, but in other cases the fortified area appears to have been a citadel, with a lower town at its foot. Such was the case at Mycenae, where groups of houses were scattered among tombs on the slopes below the citadel. Some of the

houses were richly appointed, with painted frescoes, but the settlements as a whole were not extensive and should be described as towns rather than cities. There was also an extensive lower town at Tiryns, with workshops and houses.

Palace-Based Polities

The focus of the Mycenaean palace was an architectural complex known as a *megaron.* This consisted of a principal room with a central, raised hearth that was entered through an antechamber by a single door from a columned porch on the long axis: Porch, antechamber, and main room formed three elements of a single plan. Along the outside of the longer walls of this complex ran corridors giving access to adjacent suites. The main room with hearth was clearly a ceremonial chamber. The best-preserved example is at Pylos, where the hearth and the plastered floor still bear traces of their decoration; the floor was painted and polished to give the effect of variegated paving stones. At Tiryns, the floor consisted of painted plaster panels depicting octopus, dolphins, and other marine creatures. The walls, too, were decorated with painted frescoes ultimately derived from Minoan models, though the Mycenaean fresco style is distinct from the Cretan in many respects. None of the palaces are standing above foundation level today, however, and their original appearance must be reconstructed from stone footings and fragments recovered through excavation. These suggest that, at Pylos at least, the upper story was made of mud-bricks.

As befitted their role as the administrative centers of small kingdoms, Mycenaean palaces contained storerooms for agricultural produce and luxury manufactures. The rulers no doubt drew wealth from the surrounding countryside in the form of tribute and taxation. The Linear B tablets from Pylos contain references to bronze weapons and vessels, female textile workers, a perfume industry, and the allocation of bronze to metalworkers (Figure 9.10). These clues suggest that the palaces were centers of craft production under the direct control of the ruler, rather as the Mari tablets indicate in Mesopotamia (see Chapter 7). There are also references in the Pylos tablets to palace furnishings: chairs of ebony and greenwood, for example, decorated with ivory or inlaid with gold and electrum figures of men, animals, and vegetation; or a footstool inlaid with blue glass and fitted with gold struts.

FIGURE 9.10 Clay tablets with Linear B script from the palace of Knossos (Crete). The smaller tablet records numbers of sheep, the larger one concerns the offering of oil to various deities. Archives of Linear B tablets have been found at Pylos and other Mycenaean sites on the Greek mainland, and also at Knossos on Crete where they reflect the adoption of Mycenaean Greek by the palace bureaucracy in place of the earlier Minoan script. The Trustees of the British Museum.

The Mycenaeans were not only builders but also engineers. This appears most clearly in the Argolid and Boeotia. Around Mycenae, a whole network of paved roads has been traced, complete with bridges and culverts where there were streams to cross. The roads may have been built to carry horse-drawn chariots, which would otherwise have found the broken terrain difficult to traverse. A more substantial undertaking was the dam built upstream of Tiryns during the last 15–20 years of the thirteenth century B.C. This diverted the stream via an artificial canal, approximately 0.5 kilometers (a third of a mile) long, into a new course well south of the citadel and may have been a response to regular long-term flooding of the area north of the

citadel. The most extensive engineering works undertaken by the Mycenaeans were the dams and canals built to drain Lake Copais, northwest of Thebes. These are evidence for powerful central direction by a ruler or dynasty based probably at Orchomenos, as suggested by the discovery of Linear B tablets and the impressive chambered *tholos* tombs (see next section).

The Political Geography of the Mycenaean Kingdoms

The tombs, along with the palaces, are crucial evidence for the political geography of Mycenaean Greece. We have already described the famous Shaft Graves of Mycenae with their fabulous wealth of grave offerings. These date from the seventeenth century B.C. Most, though not all, later Mycenaean princely burials were laid in impressive stone burial chambers, circular in shape and covered by a corbeled vault, commonly known as *tholos* tombs. The most sophisticated is the so-called Treasury of Atreus at Mycenae, with smoothed stone facing and decorative slabs carved with spirals in relief. Clusters of such tombs at various locations in southern Greece probably represent local centers of power. Their presence close to a citadel, palace, or other major site may indicate the center of a small kingdom, or the residence of a local lord. If such evidence can be trusted, Mycenaean Greece was divided into a dozen or more separate states. These were not city-states on the Syrian or Mesopotamian model but princedoms ruled from palaces, without any large population centers. Many upland areas may have remained outside the system altogether. There is certainly nothing to suggest that the whole land formed a single unified kingdom, even if the Mycenaeans are to be equated with references in Hittite texts which speak of a “King” or “Great King” of Ahhiyawa (see Chapter 7).

Linear B tablets provide important information about the political geography of Mycenaean Greece. Those that have survived, including substantial archives from Pylos and Knossos, relate almost exclusively to administrative matters (Figure 9.10). Writing was clearly an important tool for the government of Mycenaean kingdoms. The Pylos tablets provide valuable evidence for the internal organization of this Mycenaean state. They show that it was divided into two provinces: the Nearer province, consisting of the coastal area around Pylos itself, and a Further province, stretching inland into the mountains. Each province in turn was divided into sixteen

districts administered by a governor. At the apex of the administration was the king, or *wanax*, with his army chief and court companions.

Mycenaean Crafts

As with the Minoans, pottery is one of the most widespread Mycenaean products and is the basis for the internal chronology.[3] Mycenaean pottery is a high-quality product, with thin-walled, wheel-made vessels and attractive, often elaborate shapes. Painted decoration, too, is of a high standard, ultimately derived from Minoan models but recognizably different. Floral and marine subjects are popular, slightly stiffer in composition than their Cretan counterparts. Special mention must be made of the "pictorial" vessels, which appeared in Late Helladic III times. These show painted scenes such as chariot processions, bulls, or in one case a line of marching foot soldiers. It must be remembered that painted pottery, though widespread, is always in the minority on Mycenaean sites. Most of the everyday pottery was undecorated, though still of high quality.

Mycenaean craftspeople displayed a wide range of skills, many of them for use by the palace elites. As we have seen, the palaces themselves were the setting for some of this craft activity. Here we may mention carved gemstones, gold jewelry, carved ivory, and metal vessels like the famous gold Vapheio cups. Some of the materials must have been imported: Tin for the bronze, for example, probably came from Southwest Asia, and amber, used in jewelry, traveled to Mycenae and other sites across a network of trade routes from Baltic sources. Lapis lazuli was another exotic import, brought from sources as far away as Afghanistan.

The Linear B tablets refer to craftspeople in bronze and to storerooms with chariots. It is clear from this and the evidence for fortification that the Mycenaean world was a warlike environment, although not necessarily more so than neighboring regions. The supposed contrast between a warlike Mycenaean Greece and a peaceful Minoan Crete is in the process of reassessment, though it remains true that armor and weaponry are more prominent in the Mycenaean world, both in actual finds and in artistic depictions. A striking example is the bronze body armor from the rich tomb at Dendra, though this would have been cumbersome to wear. A boar's tusk helmet was also found in this tomb; examples are known from other sites, and they are sometimes depicted in art. Shields, spears, and swords, however,

were the commonest weapons. We suspect that the chariot, which appeared in art and on the tablets, can have been of little use as a war machine in the rugged Greek terrain, though the palaces evidently maintained large fleets of these vehicles. In Egypt and Southwest Asia they were used as mobile archery platforms, but Mycenaean practice may have been as described by Homer's *Iliad*, where chariots ferry aristocratic warriors to and from the battlefield, although by Homer's day chariots had not been used in Greek warfare for several centuries.

Box 9.2 Discoveries The Uluburun Shipwreck

Few archaeological finds rival the extraordinary cargo found aboard a Bronze Age ship wrecked off the rugged Uluburun cliffs in southern Turkey. Shipwrecks like this offer unique opportunities to study ancient trade, for each ship on the seabed is a sealed capsule, it holds a mirror of trading conditions at the time. George Bass and Cemal Pulak's excavation of the Uluburun ship has yielded a mine of information on the commercial world of the eastern Mediterranean in the fourteenth century B.C. The heavily laden ship was sailing westward from the eastern Mediterranean when it was shattered on the jagged rocks of Uluburun in about 1306 B.C. (a date from tree rings in firewood found in the wreck). It sank on a slope, between 44 and 52 meters (144 and 170 feet) below the surface. Bass and Pulak plotted the exact position of every timber and every item of the ship's equipment and cargo as they lifted artifacts from the seabed. They have recovered a unique portrait of eastern Mediterranean trade more than 3,000 years ago.

The Uluburun ship was laden with over 350 copper ingots, each weighing about 27 kilograms (60 pounds), a load of 10 tons, enough to equip a small army with armor and weapons (Figure 9.11). The tin may have come from southern Turkey. One hundred and fifty two-handled Canaanite jars from Palestine or Syria held olives, glass beads, and a ton of resin from the terebinth tree, incense used in religious rituals. The ship's hold contained Baltic amber that probably reached the Mediterranean overland, ebonylike wood from Africa, elephant and hippopotamus ivory, and ostrich eggshells from North Africa or Syria. Egyptian, Levantine, and Mycenaean daggers, swords, spearheads, and

woodworking tools lay aboard, and also sets of weights, some fashioned in animal forms. There were costly glass ingots (the earliest known; some fitting exactly in ingot molds found at Qantir in Egypt), Mesopotamian cylinder seals, a Mycenaean sealstone, and even a gold cup and parts of a tortoiseshell lute. The ship carried an Egyptian scarab inscribed with the name of Nefertiti, along with dozens of fishing weights, fishhooks, and twenty-three stone anchors, vital when anchoring in windy coves. Even the thorny burnet shrub used to pack the cargo was preserved. One unique find were two wooden diptychs, pairs of writing boards joined together by an ivory hinge, with recessed surfaces for the wax on which commercial transactions or other texts could be recorded.

FIGURE 9.11 A modern replica of the Uluburun ship, laid on the seabed off the Turkish coast in 2006 to be the centerpiece of an archaeological park. WaterFrame/Alamy Stock Photo.

By using artifact distributions from land sites and a variety of sourcing techniques, Bass and Pulak have reconstructed the ship's final journey. They believe the vessel started its voyage on the Levant coast, sailed north up the coast, crossed to Cyprus, then coasted along the southern Turkish shore. It called at ports large and small on its way west, along a well-traveled route that took advantage of changing seasonal winds, to Crete, some Aegean islands, and perhaps to the Greek mainland. Captain and crew may have traversed this route many times, but on this occasion their luck ran out and they lost their ship, the cargo,

and perhaps their lives on the Uluburun rocks. From the archaeological perspective, the Uluburun shipwreck is a godsend, for it allows researchers to fill in many details of an elaborate maritime network that linked the eastern Mediterranean with Egypt, the Aegean, and Greece more than 3,300 years ago. This may not have been purely a trade mission. There are hints that the ship was carrying Aegean ambassadors, and the valuable elements in the cargo, including the copper ingots, may have been a diplomatic gift from the Egyptian pharaoh, destined perhaps for one of the Aegean palaces.

The Uluburun shipwreck was for many years the earliest known shipwreck, but a still older example, dating to the sixteenth or fifteenth century B.C., has recently been discovered off this same stretch of coast. It too was carrying copper ingots, along with other materials. The oldest shipwreck currently known is a Minoan vessel wrecked off the north coast of Crete in the eighteenth century B.C.

The Mycenaeans Abroad

The Aegean world had had trade relations with Southwest Asia from at least the third millennium B.C., but in the Late Bronze Age these take on a much greater (or more visible) importance. The evidence consists mainly of Mycenaean and, to a lesser extent, Minoan pottery, which is found in large quantities in Egypt, along the Levantine coast, and in Cyprus. A large proportion of the vessels are small containers, probably used for the transport of perfumed oils; in this case it was obviously the contents rather than the pottery itself that was important. Analysis of the pottery fabric by the technique known as optical emission spectroscopy has shown that most of it comes from the Argolid, which was evidently the key region of Greece that participated in these exchanges.

The large quantity of Mycenaean pottery at east Mediterranean sites could be taken to imply that Mycenaean traders were regular visitors at Syrian and Cypriot ports. While this may have been the case, it is clear that much Mycenaean pottery was carried in non-Mycenaean vessels. The evidence comes from excavations by George Bass and others at Bronze Age shipwrecks off the southern coast of Turkey (Box 9.2). These were not Mycenaean ships but Syrian or Canaanite vessels that carried Mycenaean

pottery among a range of other wares. In both cases, the principal commodity appears to have been copper ingots, mainly of “ox-hide” shape (rectangular, with concave sides and projecting corners). The copper had been mined on Cyprus and was perhaps being shipped westward, along with some tin, for trade to the Mycenaean world. These sites divert emphasis from the Mycenaean decorated pottery, which is so prominent in the archaeological record, to the much more valuable trade in copper ingots, which would have been melted down and cast into finished goods upon arrival at their destination. The Uluburun wreck also contained finished metal goods, glass beads; unworked ivory, gold, and silver ornaments; and ostrich eggshells from countries as far afield as Syria and Egypt.

The East Mediterranean was not the only area of Mycenaean overseas interest, however, and it is possible that in the central Mediterranean Mycenaean sailors and ships were the principal carriers. Mycenaean pottery has been found around the coasts of Sicily, southern Italy, and Sardinia. Some authorities have gone so far as to argue that the site of Scoglio del Tonno, overlooking the excellent natural harbor of Taranto Bay, may have been a Mycenaean trading station, an argument based on the quantities of Mycenaean and native Italian material it has yielded. Mycenaean pottery reached the island of Malta and even the coast of southern Spain. What the Mycenaeans were getting in return remains an enigma, but on Sardinia the main object was no doubt Sardinian copper. Copper ingots of the typical ox-hide form have also been found on Sardinia, and the Mycenaeans could actually have been involved in working the mines on the island. Surprisingly, analyses of the metal suggest that Sardinian ox-hide ingots are of Cypriot (rather than Sardinian) copper, though they may all be in reality of recycled metal.

Whatever the scale of Mycenaean involvement far afield, it was in the Aegean region that it had its greatest impact. As we have seen, at some point during the fifteenth century Minoan Crete was absorbed into the Mycenaean orbit and Greek-speaking leaders became the new rulers of Knossos. Mycenaean influence became particularly strong in the islands of the Dodecanese, including Rhodes. Whether this ascendancy was achieved by peaceful or violent means is uncertain, but the Linear B tablets from Pylos do mention substantial numbers of female captives and their children (but relatively few men) from places in the eastern Aegean like Chios, Lemnos, and Knidos. They were employed by the palace for spinning and food

processing and received rations in return. Two interpretations are possible: Either they were purchased in slave markets of the eastern Aegean, or they were captives taken directly by the Mycenaeans themselves.

The picture of Mycenaean seaborne warriors raiding settlements on the coasts and islands of the eastern Aegean may have provided the historical background for the Homeric story of the Trojan War (Figure 9.12). References in Hittite royal records to a king of Ahhiyawa who operated in a hostile manner in Aegean Turkey may also relate to "Achaean" (Mycenaean) military activity on the Turkish mainland. The coastal area around Miletus and Halicarnassus may even have become a Mycenaean enclave; it faces west toward the heavily Mycenaean-influenced Dodecanese. It is, of course, very difficult to be certain that we are dealing here with ethnic Mycenaeans rather than with the local adoption of Mycenaean fashions in pottery and burial.

FIGURE 9.12 Fortifications of Troy VI. The *Iliad* tells of a war fought by the Achaeans (Greeks), led by Agamemnon, high king of Mycenae, against the city of Troy, near the Dardanelles at the northwest corner of Turkey. In the 1860s the site of Troy was identified with the mound of Hissarlik by British archaeologist and local resident Frank Calvert. Heinrich Schliemann's excavations in the 1870s uncovered a series of Bronze Age settlements, stretching back into the third millennium B.C. Among them was a fortified citadel of Late Bronze Age date (Troy VI), contemporary with the Mycenaean citadels of Greece. Schliemann himself erroneously equated Homer's Troy with Troy II, a much earlier third millennium fortress; his assistant Dörpfeld corrected the chronology some years later. Troy VI suffered severe destruction around 1250 B.C., for which both earthquake and human assault are possible explanations. It is tempting to link this destruction with the legend of the Trojan War. The Mycenaeans may well have been raiding this coast in the thirteenth century B.C., and local strongpoints such as Troy would have been natural targets in such a conflict. The Greek legends of the Trojan War contain many elements borrowed from later periods,

however, including the use of iron and the emphasis on the burial rite of cremation, as in the description of Patroclus's funeral. Inhumation was the standard rite in the Mycenaean period. Excavations by German archaeologist Manfred Korfmann in the 1990s showed that the Troy excavated by Schliemann was in fact only the citadel of a larger Late Bronze Age city. Chris Scarre.

AFTER THE PALACES: POSTPALATIAL GREECE (1200–1050 B.C.)

The thirteenth century B.C. was a time of increased insecurity on the Greek mainland. New or enlarged fortifications were built at Mycenae, Tiryns, Athens, and several other sites. Shortly afterward, around the end of the thirteenth century B.C., the palaces themselves were destroyed. Pylos went up in a huge conflagration, which proved to be of great good fortune to archaeologists since it baked hard and preserved the clay Linear B tablets in the palace archives.

The causes of this destruction, at Pylos and elsewhere, are unclear. There is no evidence to suggest that the countryside was overrun by foreign raiders or invaders. Drought, crop failure, and internecine warfare among the various kingdoms may all have played their part. Whatever the causes, over a period of fifty years or so all the major palaces were abandoned, an event that ushers in the so-called Postpalatial period (c. 1200–1050 B.C.). This was generally a time of reduced prosperity, though the town of Tiryns, for example, grew to be even larger than before (maybe providing refuge for people from the surrounding countryside). Overseas contacts were maintained, but Crete and the Dodecanese, rather than the mainland, seem to have been the leading centers of trade in the Postpalatial period. By around 1000 B.C., however, even this economic activity had slowed. The demand for craftsmanship declined still further, and settlements became small and dispersed. In areas of southern Greece such as Messenia and Laconia there is evidence of severe depopulation.

It was hardly an optimistic moment, but this was the economic and political matrix from which the world of classical Greece was to develop during succeeding centuries. By the eighth century B.C., city life and foreign trade had revived and the first Greek epics were being written in the newly adopted alphabetic script. These legends and epics contain echoes of the Mycenaean Palace age, most famously in the *Iliad* and the *Odyssey*, attributed to Homer. There is little doubt that such texts incorporate historical elements—the Trojan War may have been a real historical event—but their picture of swashbuckling heroes engaged in single combat is a far cry from the painstaking palace bureaucracies revealed by the Linear B tablets.

Summary

The first Aegean civilizations, those of Minoans and Mycenaeans, flourished during the second millennium B.C. We have seen how they related to each other and to the rest of the Mediterranean world, with Mycenaeans replacing Minoans as the dominant regional power during the fifteenth century B.C. Their remains consist of palaces and citadels, frescoes and traded goods, and they are very different in scale from the cities and states of contemporary Egypt or Mesopotamia. A major theme throughout this chapter is contrast and comparison among Crete, the Greek mainland, and the Aegean islands.

Each had its own individual character yet drew on a common pool of cultural influences and borrowings. Another theme is the tantalizing glimpses provided by later Greek legends, which seem to tell of Bronze Age historical events. The discovery that Linear B script is a version of Greek shows that the Mycenaeans were the direct ancestors of the Greeks of the classical period, whose story we follow in Chapter 10.

Note

1. A confusing feature of Aegean Bronze Age chronology is the use of two separate systems of terminology. The first is based mainly on pottery styles and is divided simply into Early (3200–2100 B.C.), Middle (2100–1700 B.C.), and Late (1700–1050 B.C.). The mainland sequences are labeled Helladic—thus Early Helladic (EH), Middle Helladic (MH), and Late Helladic (LH); those of the Cyclades are labeled Cycladic (EC, MC, LC); and those of Crete, Minoan (EM, MM, LM).

   Alongside this system is an alternative periodization based on the Minoan palaces, beginning with the Prepalatial period (3200–2100 B.C.). This is followed by the First Palace, or Protopalatial, period (2100–1700 B.C.), corresponding to the first Cretan palaces to the period of their destruction by earthquake c. 1700 B.C. Then follows the Second Palace, or Neopalatial, period (1700–1450 B.C.), which ends with the destruction of the Cretan palaces and the beginnings of Mycenaean control at Knossos. The Third Palace period runs from 1450 B.C. to the fall of the mainland Mycenaean palaces in 1200 B.C. The final phase in this system is the Postpalatial period, from 1200 to 1050 B.C.
2. The conventional classification scheme, based on vessel forms and decoration, is as follows: Middle Minoan IA, IB, IIA, IIB, IIIA, IIIB; Late Minoan IA, IB, II, IIIA1, IIIA2, IIIB, IIIC.
3. Mycenaean pottery classifications are complex. In pottery terms the Mycenaean civilization comes under the Late Helladic (LH) Period, to distinguish it from the Late Minoan (LM) of Crete and the Late Cycladic (LC) of the islands. Late Helladic is subdivided into three major units (LH I, II, and III), and these again into smaller divisions (LH IIA, IIB; LH IIIA1, IIIA2, IIIB1, IIIB2; IIIC; with regional and site-specific subdivisions) from the evidence of pottery shapes and decorations. There is a large literature on the subject, and these pottery styles are generally taken to represent successive time periods of around fifty years, though some (e.g., LH IIIB2) are not present in all areas.

CHAPTER 10

The Mediterranean World in the First Millennium (1000–30 B.C.)

FIGURE 10.0 The goddess Athena mourning the Athenian dead, a marble relief slab c. 470 B.C. discovered close to the Acropolis at Athens. Chris Hellier/Alamy Stock Photo.

The twenty-eighth day of the month Hekatombaion, the first month in the Athenian calendar, dawned bright and clear. Already the city was astir with activity, for this was the festival of Athena's birthday, the day of the Panathenaia, the great procession. Early in the day the procession assembled on the edge of the city, marshals organizing the various groups into their proper order: young men on horseback, chariots, people on foot, youths bearing water jars, men playing pipes, and others with the stringed instruments known as citharas. Near the front of the procession were the key players in the ceremony. A group of men led cattle and sheep for sacrifice.

More important still was the contingent of young girls, past puberty but not yet married, escorting the wheeled cart that carried the embroidered peplos itself, raised high above the crowd on a wooden mast. Slowly, the procession passed through the city gate and made its way along the stone-paved Sacred Way through the agora. Ahead of them stood the gleaming marble buildings of the Acropolis; there in the shrine of Athena Polias, the ceremony itself would take place. The ancient statue of the goddess would receive the peplos, her new robe, and the city would rejoice in another year of Athena's patronage.

CHAPTER OUTLINE

The Recovery of Greece (1000–750 B.C.)
Phoenicians and Carthaginians (1000–750 B.C.)
The Greek Colonies (800–600 B.C.)
Etruscan Italy (900–400 B.C.)
- *Cerveteri and Etruscan Cemeteries*
- *Etruscan Expansion*

Archaic Greece (750–480 B.C.)
Three Greek Cities: Athens, Corinth, Sparta
Classical Greece (480–323 B.C.)
- *Democracy and Slavery*
- *The Great Age of Athens*
- *The Ancient Greek Countryside*

Sequel: The Hellenistic World

The Panathenaic Festival described above was one of the annual events of ancient Athens, the leading city-state of classical Greece. In this chapter we discuss the rise of the Greek city-states from their beginnings in the eighth century B.C. We also consider the parallel development of city-states in Etruscan Italy and the implantation of Greek and Phoenician colonies around the shores of the Mediterranean. The chapter ends with an account of classical Greece and the Hellenistic world (see Tables 9.1 and 11.1).

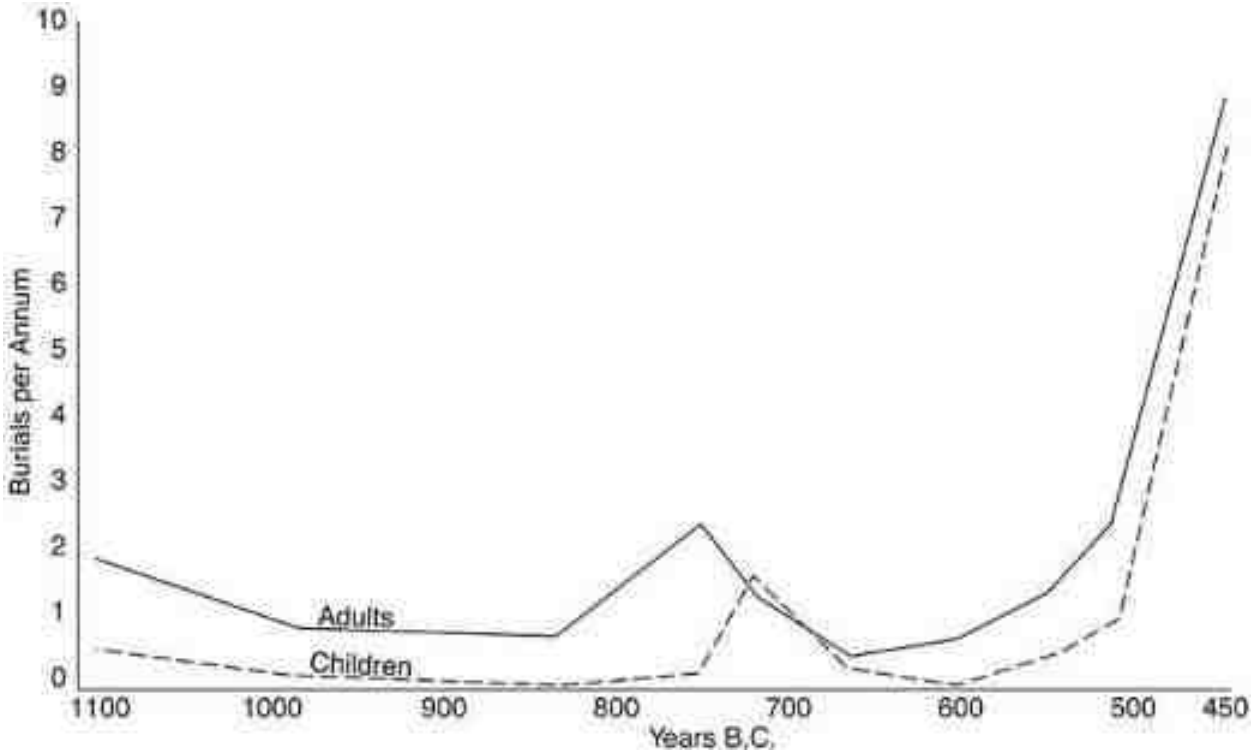
THE RECOVERY OF GREECE (1000–750 B.C.)

In historical terms, the centuries following the collapse of the Mycenaean palaces in Greece are shrouded in darkness. Later Greek historians such as Herodotus believed that Greece had been invaded by peoples from the north, the so-called Dorians. These newcomers, it was thought, had introduced iron tools and weapons and had replaced the heroic society of the Mycenaean age (as depicted by Homer) with a new social order. Yet several of the principal Mycenaean centers—Athens, Thebes, Sparta—remained important or regained their importance during these "dark" centuries. Furthermore, the language spoken by the Mycenaeans and recorded on the Linear B tablets is now known to have been an early form of Greek (see Chapter 9). Current theories of the "dark age" do not look to a wholesale replacement of the Greek population but to a decapitation of Mycenaean society—the fall of the aristocrats, with their palaces and clay tablets, leaving the uneducated villagers and farmers, with only their oral traditions and village-farming economy.

For several centuries Greece remained a basically farming society, without cities, without writing, and without architecture of any significance. Yet as early as the tenth century B.C. there were signs of economic revival. This cultural and economic recovery, continuing during the ninth and eighth centuries B.C., had both domestic and international components. At home, population levels that had fallen dramatically at the end of the Mycenaean age began to rise once again, and prosperity grew (Figure 10.1). Overseas, there were renewed contacts with the ports around the eastern Mediterranean, and luxury items from Egypt and Cyprus were placed in graves at Lefkandi on the Greek island of Euboea. These growing contacts with the flourishing cities and empires of Southwest Asia (that were described in Chapter 8) were instrumental in the developments that followed and ultimately gave rise to Classical Greece.

FIGURE 10.1 Graph of burials at Athens, 1100–450 B.C. A key feature of the rise of the Greek polis, or city-state, was the development of a new social ideology that emphasized the concept of citizenship, that is, that citizens enjoyed equal rights, regardless of wealth and rank. This was a marked change from the situation during previous centuries, when Greek

society had been dominated by wealthy families and most of the people were dependent peasant laborers. British archaeologist Ian Morris has argued that in the case of Athens, the transition from the master-peasant stage to the citizen-polis was far from smooth and suffered at least one temporary reversal. He bases this conclusion on burial evidence from Athens and its surrounding area, where he notes the exclusion of certain groups, including children and the poor, from formal burial in cemeteries during the pre-polis period (eleventh to eighth centuries B.C.). Comparing the representation of children with that of adults, we see that the proportion of children rose during the eighth century B.C., along with an increase in the numbers of adults who had formal burials. This, Morris argues, indicates a trend toward citizens' burial, in which all citizens, whether rich or poor, have the right to cemetery interment. Several Greek cities (though not all) underwent a parallel process around the same time, resulting in the emergence of city-states at Corinth and other centers. At Athens, however, Morris shows that this pattern of change is reversed around 700 B.C., when burial reverts to the rich alone. The incipient rise of the Athenian *polis* seems thus to have been nipped in the bud. The resumption of the trend occurs only in the sixth century B.C., when there is a rapid increase in the numbers of both adult and child burials in Athenian cemeteries. This marks the final transition to the *polis* ideal, wherein the city-state was governed by, and on behalf of, the citizenship as a whole rather than by the wealthy families alone. The culmination of this process was the development of Athenian democracy shortly before 500 B.C.



The eighth century B.C. marks a watershed in Greek cultural and economic development. This is the century in which the Homeric epics attained their present form and were set down in writing, using the alphabet that in this same century the Greeks adopted from the Phoenicians. Another landmark of early Greek literature was the poetry of Hesiod, a younger contemporary of Homer, who lived in the small town of Askra in Boeotia around 700 B.C. In his *Theogony*, a long verse account of the gods and their origins, we find Zeus and Hera, Apollo and Athena, Ares, Artemis, and Aphrodite: the gods and goddesses of the classical Greek pantheon. They are also featured in Homer's writings. At about the same time, buildings recognizable as temples appeared in such places as Samos and Olympia, simple structures at first but the beginnings of a great tradition of classical architecture. The Greeks later maintained that the first Olympic Games had been held in 776 B.C.; this date was taken as the starting point of Greek historical chronology.

One of the most crucial developments was that of the city-state, or *polis.* As we have seen, Mycenaean centers had been relatively small settlements, clusters of houses around a fortress or palace. It is doubtful if any of them would have qualified for designation as cities. Classical Greece, by contrast, was a land of cities, and citizenship became a key feature of Greek politics and way of life. The concept of the city-state was the major organizing

principle in the Greek world. Typically it comprised the city itself (usually fortified since they were often at war with each other) and the surrounding rural hinterland, dotted with farmsteads and villages. On the one hand, many such city-states were small both in extent and in population; some could field only a few hundred men of military age. On the other hand, some could afford to build grandiose temples and public buildings: not palaces for the wealthy but monuments to the prestige of their own city. This is a trend seen most obviously in fifth-century Athens, when the resources of the Athenian empire were poured into the reconstruction of the Acropolis and above all the Parthenon, with its gold and ivory statue of the patron goddess, Athena.

PHOENICIANS AND CARTHAGINIANS (1000–750 B.C.)

The recovery of the Greek economy and the expansion of Greek overseas contacts were part of a much wider phenomenon that also involved the Phoenicians. These active Levantine traders began to engage in long-distance commerce and exploration perhaps as early as the tenth century B.C., reaching northwest Africa and southern Spain during the ninth century (see Chapter 8). One of the principal objects of this trade was the metal resources of southern Spain and Portugal (Iberia), the kingdom known as *Tartessos.* These included silver above all, but Iberia also yielded abundant resources of tin and copper and much gold. Spain was, of course, a long journey from Phoenicia itself, but the metals could be sold at great profit in the ports and markets of the eastern Mediterranean, and Phoenician merchants became rich through this trade. One result of their commercial success was the foundation of trading colonies on the shores of the Mediterranean. These served both as stopping-off points for long-distance merchant ships and as places for trade with the local populations. The main prerequisite in choosing a site for such a colony was a good natural harbor—offshore islands; deep, sheltered bays; or sandy promontories where ships could be hauled up and beached. Gades (Cadiz) in southern Spain is a typical example: a long island not far from the shore, with sheltered bay and river estuary behind. Such locations paralleled those of the main cities of Phoenicia itself, such as Tyre and Sidon.

Phoenician colonization got properly underway during the ninth century. It was then that the greatest of all their new settlements, the city of Carthage on the North African coast, was founded. The traditional date of the foundation is 814 B.C., and German excavators have located levels as early as the eighth

century. The name itself means “new city” *(Qart Hadasht)*, and it quickly grew to be the leading Phoenician center of the western Mediterranean and the head of a Carthaginian empire. It was a Levantine city transplanted in Africa, with the Phoenician gods Baal Hammon and Melkart and the goddesses Astarte and Tanit. One famous rite the Phoenicians brought with them was that of child sacrifice in times of crisis (for instance in 310 B.C., when the city was besieged by the Greeks). Confirmation of this gruesome rite appeared to come in 1921 when a local resident stumbled on the child cemetery, or *tophet*, near the southern limit of the ancient city. Estimates suggest that well over 20,000 urns may have been buried in this cemetery, most containing the cremated remains of one or more children, though roughly one in ten held the remains of young animals instead. The latter were probably substitutes for child burials. In chronological terms they spanned virtually the whole of the city’s early history, from 750 B.C. to its destruction by the Romans in 146 B.C. Not everyone is convinced, however, that all of these burials were the result of child sacrifice. Some have argued that the *tophet* may have been the burial place for all very young infants at Carthage, regardless of the cause of death. Others maintain that child sacrifice is still the most convincing explanation. Greek and Roman sources suggest the victims probably had their throats cut before they were burned. Carthage is in fact only one of ten Phoenician cities in the western Mediterranean where cemeteries containing cremated remains of sacrificed children have been found. The children may have been sacrificed in fulfillment of a vow, making the gruesome ritual in reality an act of piety and religious faith.

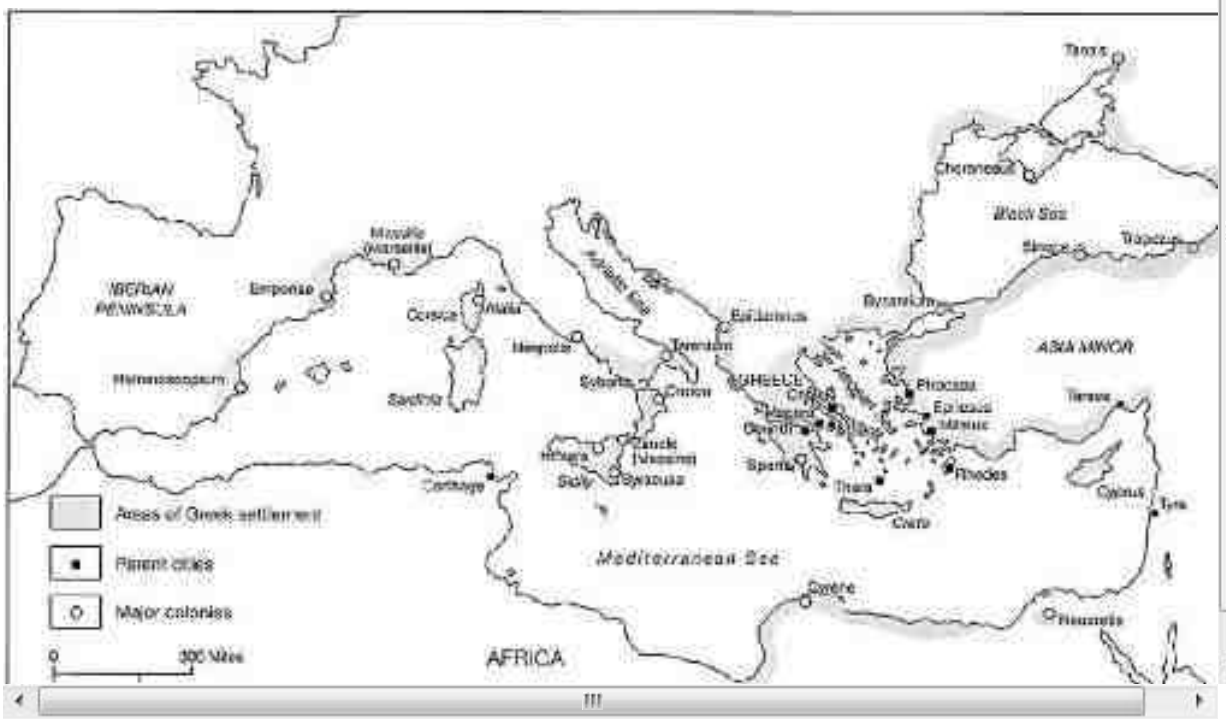
We would know much more about Carthage and the Carthaginians had their own writings survived, but they perished in the Roman destruction of the city in 146 B.C. Thus, we are dependent on sketchy details provided by Greek and Roman writers, who had no reason to admire a Carthaginian people with whom they were so often at war.

THE GREEK COLONIES (800–600 B.C.)

The Phoenicians planted colonies around much of the western Mediterranean basin, including southern Spain, North Africa, Sardinia, and western Sicily (see Figure 10.2). But they were not the only colonizers of the first millennium B.C. The Greeks, too, built new cities around the shores of the Aegean, the central Mediterranean, and the Black Sea. The process began as

early as the tenth century with the foundation of cities such as Miletus and Ephesus on the western coast of Turkey; these became so well established that in later years they were regarded as part of the Greek homeland. Some of the sites may indeed have been continuously occupied by Greeks from Mycenaean times.

FIGURE 10.2 Map of Greek colonies around the Mediterranean and Black Sea coasts.



The great phase of Greek colonization began in the eighth century B.C., when several communities on mainland Greece sent out colonies both eastward and westward. This was linked with a resurgence of interest in the sea, something that the Greeks had probably never lost but which was increasingly marked by ship designs painted on Athenian pots. The overseas colonies are often described as the daughter cities of mother cities in the Greek homeland, but in reality the process of colonization did not begin after the rise of the Greek city-states but alongside it. Thus, *polis* formation and overseas colonization were contemporary developments.

The most active of the colonizing cities of the eighth century were Eretria and Chalcis on the island of Euboea. No fewer than nineteen Euboean

colonies were founded, beginning around 775 B.C. with Pithekoussai in southern Italy. These were no mere footholds on a foreign coast but substantial settlements. The remains at Pithekoussai cover 75 hectares (185 acres), and already by 700 B.C. it must have had a population numbering several thousand. Within little more than a century the whole of southern Italy and much of Sicily was dominated by Greek colonies such as Neapolis (Naples), Cumae, Poseidonia (Paestum), Taras (Taranto), and Syracuse, so much so that it came to be known as *Magna Graecia.* Around 600 B.C., Greek colonists founded the cities of Massilia (Marseilles) in southern France and Emporion (Ampurias) in northern Spain, though their expansion further west was blocked by the Carthaginians.

Fieldwork in Italy has clarified the process of colony foundation and shown that it was often more protracted and more complex than has sometimes been thought. The notion that, as soon as they arrived, Greek colonists set about ejecting the indigenous inhabitants of the areas in which they chose to settle is being increasingly thrown into doubt. Sybaris, for example, was founded in the late eighth century as a trading emporium, and only later developed into a "colony." The growing impact on the local communities of the area can be traced from the results of excavations at Timpone della Motta, an inland indigenous settlement and cult center. The buildings of the cult center betray Aegean influence from the late eighth century when the Greeks first established them on the neighboring coast. Major change occurred in the mid-seventh century, when the sanctuary was rebuilt in Greek style and Greek pottery became dominant among the offerings. By the early sixth century, the cemetery at Timpone della Motta was abandoned as the native elites relocated to the Greek colony of Sybaris, which now became the political and administrative center for the entire rural hinterland. Hence, "colonization" in this Sybaris area appears to have been a gradual process extending over more than a century. A similar pattern can be detected at Metapontum, where Greek traders and colonists were present for two or three centuries before the hinterland was divided up according to a "colonial" template.

In addition to their relationships with indigenous communities, the Greeks had to contest control of the western Mediterranean with the Carthaginians. In the Black Sea, however, they had no serious commercial rivals. The cities of Megara near Corinth and Miletus in Aegean Turkey began by founding colonies around the straits of the Dardanelles and gradually expanded their

activities eastward. Byzantium (modern Istanbul) was founded by the Megarians in the middle of the seventh century B.C., and by the fifth century colonies had been established across the Black Sea as far as Phasis in the east. The northern shallows around the mouths of the great Russian rivers were a particular attraction for Greek colonists. The Black Sea here is only 100 meters (330 feet) deep, but it is rich in fish like sturgeon, salmon, and turbot. The rivers themselves also gave access to the interior and provided the opening for lucrative trade in grain and other commodities with the nomadic Scythians of the Eurasian steppes. Complex reasons lay behind Greek colonization. One common earlier theory pointed to land hunger at home, arguing that rising population levels in Greece itself during the eighth and seventh centuries B.C. stimulated the search for a new life overseas. It is doubtful, however, whether populations had grown so far by the eighth century that land at home was in short supply. Military encroachment, however, may sometimes have played a role. Alan Greaves has argued that people from the Greek city of Miletus moved to Black Sea colonies during the sixth century B.C. when the city lost valuable farmland to the Lydians and the Persians and was no longer easily able to support such a large population.

Another explanation emphasizes political tensions in the early cities and the increasing divisions between rich and poor. More than one historical account tells of defeated political factions who left their home city to begin again overseas. But other factors must also have played a vital role. One was commercial. The Greeks could not have established their overseas colonies in the teeth of determined local opposition, though there is some evidence to suggest that local residents were driven out. Nonetheless, the Greeks must have had something to offer these people to persuade them to accept or at least to tolerate their presence. An obvious advantage was that they provided a ready outlet for goods and manufactures such as foodstuffs, slaves, and raw materials; the local residents could make a tidy profit through traffic with Greek traders. The Greeks themselves were careful to back this up by diplomatic gifts to local rulers, such as the famous Vix krater found in a Celtic grave in eastern France—the largest ancient Greek bronze vessel to have survived anywhere.

Greek colonies grew rich on the proceeds of trade and agriculture, shipping surplus produce such as grain and salt meat to the growing cities of mainland Greece and Ionia. In return they provided Greek goods and manufactures, some imported from overseas and others made in the colonies

themselves. And wherever they went, the colonists carried Greek language and culture, bringing large parts of the Mediterranean and Black Sea coasts within the Greek orbit and spreading Greek influence far into the interior through trade and interaction with native non-Greek peoples.

ETRUSCAN ITALY (900–400 B.C.)

The Etruscans, long-time trading partners of the Greeks, occupied the area of northern Italy known as Etruria, facing the Tyrrhenian Sea (the western basin of the Mediterranean), a fertile hill country with access to important iron deposits on the island of Elba. The Etruscans spoke a language unrelated to any modern European language. In the eighth century B.C., through contact with the Greeks, they borrowed the Greek alphabet, dropping three of the Greek letters and adding others of their own invention. Yet although some 10,000 Etruscan texts are now known, only six are more than fifty words long and most are very short indeed. The script itself is easy to read, but the brevity of the texts makes it difficult to decipher their meaning, and the Etruscan language remains only partly understood. As a result, our knowledge of the Etruscans is dependent on the testimony of archaeology and the writings of their neighbors (often their enemies), the Greeks and Romans.

For many years it was believed, following the testimony of several classical writers such as Herodotus, that the Etruscans were newcomers from the east, who had invaded Italy at the end of the Bronze Age. This theory is now generally discounted, and archaeology shows a gradual emergence of Etruscan civilization from the indigenous societies of Bronze Age Etruria, the pace of change quickening through contacts with Greek and Phoenician traders.

Phoenician merchants probably made contact with the Etruscans during the ninth century, followed by Greeks in the mid-eighth century B.C. They brought with them exotic luxuries such as ostrich eggshells, raw and carved ivories, faience and glass, and gold and silver ornaments. Soon, Greek painted pottery appeared in increasing abundance in aristocratic tombs at leading Etruscan centers such as Tarquinia, Caere, and Vulci. By the eighth century, Greek merchants were active at Etruscan ports such as Graviscae. The Etruscans were traders, in turn exporting wine, perfume jars, and glassy black *bucchero* drinking cups around the northern shores of the west Mediterranean. A number of Etruscan shipwrecks have been found, complete

with cargoes. They also entertained close commercial and diplomatic contacts with the Carthaginians. In the sixth century they acted together to put a stop to Greek commercial expansion in the western Mediterranean. At the sea battle of Alalia, fought in 540 B.C., the Greeks carried the day against the combined Etruscan and Carthaginian fleet but suffered such heavy losses that they were obliged to abandon the new colony they had founded on Corsica, which was the immediate cause of the war. Vivid evidence of close Etruscan-Carthaginian relations at this period is provided by three sixth-century B.C. gold plaques found by Italian archaeologists at Pyrgi in 1964. Two of them are in Etruscan; the third is in Phoenician (or possibly Punic, the west Phoenician dialect spoken at Carthage), and two of the three are clearly parallel texts (direct translations of each other), recording a dedication by the Etruscan ruler of Caere to the Phoenician goddess Astarte. Pyrgi was the port of Caere (Cerveteri), one of the leading Etruscan cities, and the plaques indicate that Phoenician deities were worshipped in one of these temples.

The Etruscan period in Italy is divided into a series of phases.[1] The formative phase, which led to the appearance of the first cities, is known as *Villanovan* (900–700 B.C.). It is at this time, too, that the transition from simple cremation burials to inhumation burials in chamber tombs occurred, though the latter were no doubt reserved for the elite. The Villanovan phase is followed by the *Orientalizing* period (700–600 B.C.), marked by imports of Greek luxuries including painted pottery, and the *Archaic* (600–500 B.C.) and *Classical* (from 500 B.C.) periods, when the Etruscan cities reached their greatest power and influence. Greek imports, notably of Attic painted pottery, continued during these periods.

Etruria, like Greece, was a land of city-states. The twelve leading cities formed the Etruscan League, but each city was essentially autonomous. The cities first emerged during the ninth century B.C.—a time of growing contacts with Phoenicians and Greeks—but the increased trade was probably a symptom rather than a cause of Etruscan urbanization. The roots of Etruscan urbanization lay deep in the past, in the Iron Age Villanovan communities, which were home to the native inhabitants of northern Italy. As we have already seen, earlier theories, which held that the Etruscans were newcomers to the region in the eighth century B.C. and brought the concept of the city-state with them, can now be discounted. The development of the Etruscan cities may more plausibly be attributed to local causes, including population increase, social emulation, and economic growth.

Etruscan cities are not well known in archaeological terms; none has yielded remains to rival the contemporary cities of classical Greece. It is clear that hilltop sites were favored, however, and in many cases, these were protected by substantial walls constructed either of stones alone or of mud bricks on a stone foundation. The greatest Etruscan cities were equal in extent to any of those in the Aegean or eastern Mediterranean; the fourth-century B.C. walls of Veii were 11 kilometers (7 miles) in length, and they appear to follow an earlier eighth-century circuit. Excavations have shown that the earliest houses in these cities were oval in plan, though from the seventh century B.C. the rectangular house became the dominant form.

Banditaccia was the principal cemetery of Cerveteri, one of the leading Etruscan cities of north-central Italy. The tombs show the combination of the techniques of above-ground construction and below-ground quarrying: The chambers and lower parts are cut into the rock, the upper parts built of carefully tooled blocks. The largest tombs, belonging to the seventh and sixth centuries B.C., are enormous circular monuments over 40 meters (131 feet) in diameter and capped by dome-shaped grassy mounds. They are the burial places of leading families in the early heyday of the city. These large tombs may contain up to four separate groups of chambers, not all of the same date. The four tombs of the Tumulo Monumentale II, for example, range in date from the early seventh century to the second half of the sixth century B.C.

Each complex is entered by steps or a sloping ramp cut into the side of the tumulus. At the bottom a doorway leads to a short passage from which open the burial chambers themselves. A typical example is the sixth-century Tomba della Cornice. Here doorways on either side of the passage lead to square side chambers, each with a bench on either side of the door on which a body would have been laid. The benches, like the chambers, are carved from the rock and have semicircular shelves at the head end. Beyond these side chambers, the main passage leads into the principal chamber, which also has built-in benches against the walls. A feature of this particular tomb (and certain others in the cemetery) is a pair of rock-cut, straight-backed chairs that face into the chamber on either side of the doorway. From the opposite side of this main chamber, three identical doorways with carved cornices and surrounds lead into separate chambers, each with a pair of benches, as in the side chambers. One revealing feature

of the burial chambers is the way they represent, cut into the rock, features of Etruscan domestic architecture chairs and doorways have already been mentioned. In a number of cases the ceiling is carved to represent wooden beams, and sometimes these are further supported by rock-cut pillars. Such tombs were the burial places of the powerful Etruscan families who dominated Cerveteri from the seventh century B.C.

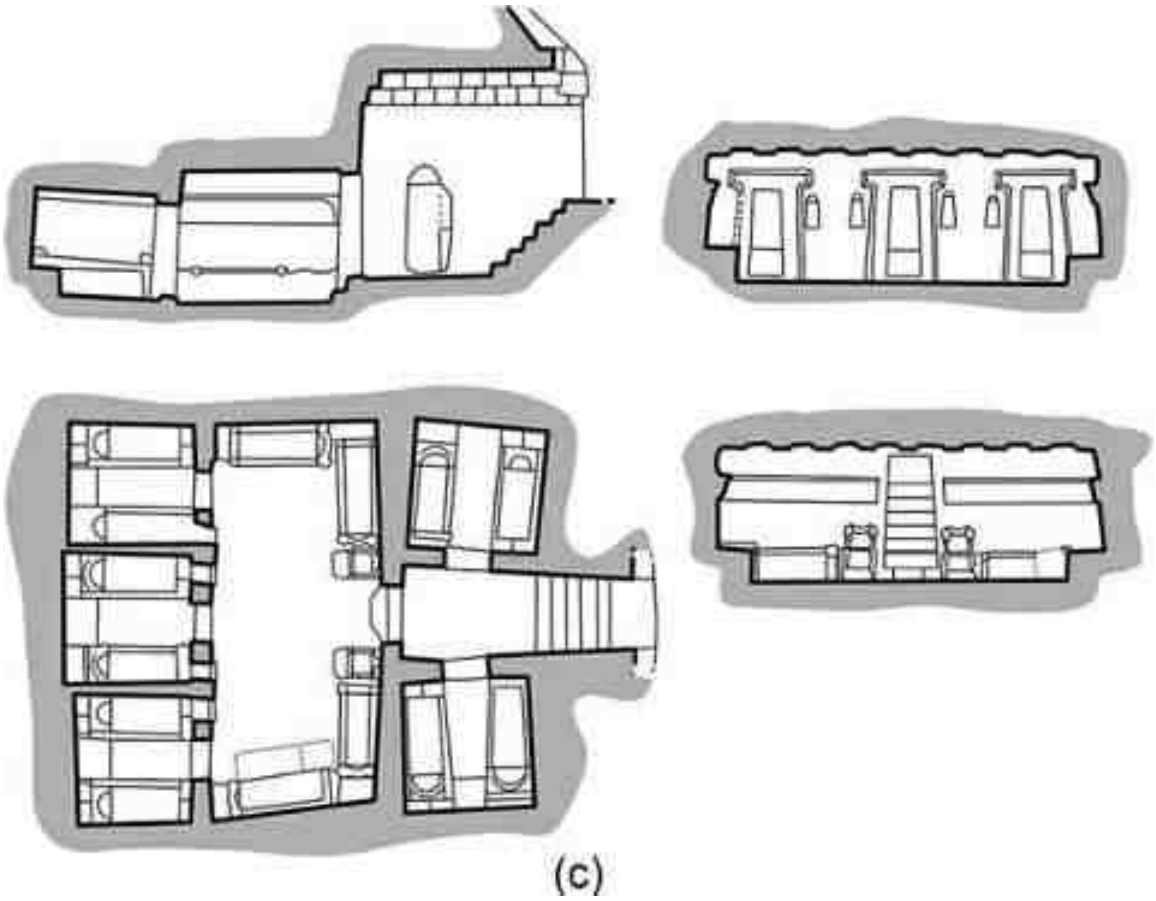
Cerveteri and Etruscan Cemeteries

Our best evidence for Etruscan houses comes paradoxically from tombs, notably those of the great Banditaccia cemetery at Cerveteri (see Figure 10.3a–c). Tomb chambers were carved in the form of houses, with doors, benches, ceiling joists, and columns to support them, all cut into the solid rock. In a few cases decoration extended to high-backed chairs, circular shields hung on the walls, or even (in the famous Tomb of the Reliefs) weapons of war, domestic utensils, and mythological scenes. These tombs were covered by burial mounds, the most famous being the large circular tumuli of the seventh and sixth centuries. Later tombs were built in rectangular blocks, paralleling the change in city planning from oval to rectangular houses. Usually several tombs were cut below a single tumulus, and each consisted of a sloping or stepped entrance leading to a main chamber, which was surrounded by a number of side chambers. The bodies themselves were laid out on benches carved to resemble beds or couches, with pillows at the head end. Other burials were placed in sarcophagi of stone or terracotta with figures of the deceased on top, as if reclining on a bed or couch.

FIGURE 10.3 The Etruscan cemetery of Banditaccia, near Cerveteri in northern Italy. (a) Circular burial mounds of the seventh and sixth centuries B.C. Chris Scarre.(b) Aerial view of the cemetery, showing circular burial mounds and streets of terrace-like tombs. Universal Images Group North America LLC/DeAgostini/Alamy Stock Photo. (c) Plan and elevation of the Tomba della Cornice (sixth century B.C.).

(a)

(b)



(c)

Etruscan civilization is famous for its painted tombs. Around one hundred of these are now known, from a number of major Etruscan cemeteries, but the most famous are those at Tarquinia, which date mainly to the sixth century B.C. Several of them have been known only since the 1950s, when Italian engineer Carlo Lerici drilled into them from above and inserted a periscope and camera. He was able by this means to investigate tombs without the effort and disturbance required for a full excavation. Only a tiny fraction of the tombs he explored were decorated, and it is estimated that altogether only 2 percent of the tombs at Tarquinia were painted. Those that were, however, are justly famous both for the quality of their decoration and for the information they provide about Etruscan beliefs. A painted doorway, giving access to the world of the dead, is a common feature. Many of the tombs also have scenes of feasting, which seem to represent a funerary banquet held in honor of the deceased. Here we see husbands and wives reclining on couches together, something that would never have been allowed in contemporary Athens or early Rome, where women were kept firmly in the background on

social occasions. Women in Etruria may indeed have enjoyed relatively high status in comparison with other regions of the Mediterranean at this period.

Etruscan temples are much less well known, and certainly none survives in anything like the state of preservation of the Parthenon at Athens, mostly because the superstructures of Etruscan temples were built mainly of timber, a much less-durable material. Foundations and tomb models show squat, rectangular buildings with heavy, oversailing pitched roofs. The temples stood generally on a raised podium reached by a flight of steps and were fronted by rows of columns. Among the most striking features were the brightly painted terracotta ornaments that decorated the edges and ridge of the roof, including large-scale statues of gods and goddesses. Attempts were made at the site of the Portonaccio temple at Veii to convey something of the appearance of such an edifice in a partial reconstruction. It is also of note that the first temple of Jupiter on the Capitol Hill at Rome was probably of just this kind since Rome at the time (late sixth century) was under strong Etruscan influence. Recent excavations have shown that it was built between 520 and 500 B.C. and ancient descriptions tell us it had a deep porch with six rows of columns, leading to three shrines or *cellae* toward the rear of the structure. Only part of the tufa-block podium survives, and while the details of the ground plan remain unclear, it gives an impression of the enormous scale of this structure. Better preserved, though of a slightly later period (fourth century B.C.), are the remains of the temple known as the *Ara della Regina* from the site of Tarquinia. This, too, was decorated with terracottas, including a splendid pair of winged horses that may once have pulled a chariot containing the figure of a god. The subtle modeling and striking realism of this piece is evidence of the impact of Greek sculpture on Etruscan art from the fifth century B.C. onward.

The people buried under the great burial mounds at Cerveteri or in the lavishly painted chambers at Tarquinia were the leaders of Etruscan society. The elaborate and monumental chamber tombs were built and used by aristocratic Etruscan families. During the sixth and fifth centuries B.C. these families suppressed the earlier institution of kings and replaced it by an oligarchic system of government under which they themselves held the reins of power in the great cities.

Etruscan Expansion

Though the Etruscan city-states were never a single, unified territorial power, they engaged in a conscious policy of expansion in two separate directions. First, during the seventh century B.C. they took control of several cities around the Bay of Naples, forming an Etruscan enclave centered on Nola, Capua, and Pompeii. This brought them into direct contact with the Greek colonies founded on the coast of southern Italy during the previous century and led to hostilities between the two. Etruscan influence also became dominant at Rome, a small Latin settlement that commanded an important crossing over the Tiber River. Under an Etruscan dynasty, the Tarquins, Rome was transformed from a village to a city, though it slipped from Etruscan grasp again when the last of the Tarquins was expelled in 510 B.C.

The second area of expansion was in the north, where the Etruscans occupied the Po plain and planted a series of planned towns, such as Marzabotto, where the grid-plan layout of the streets has been revealed with striking clarity by aerial photographs. The Etruscans even had some kind of presence in the coastal city of Spina, the ancient predecessor of Venice and, like it, situated just to the south of the Po delta. The Etruscans consolidated their hold on this region in the fifth century B.C., but during the fourth century the Etruscan cities of the Po plain came under pressure from Celtic peoples from north of the Alps and eventually fell under their control. (For later Etruscan history, see Chapter 11.)

ARCHAIC GREECE (750–480 B.C.)

In Greece, the period from 750 to 480 B.C. is known as *Archaic* since it is seen as the formative phase of the Classical period that follows (480–323 B.C.).[2] It was during the Archaic period that Greek history properly began, with sufficient sources and inscriptions to chart the development of the major city-states. It was also the time during which Greek sculpture and architecture came to maturity.

In sculpture, at least, the Greeks owed much to their contacts with Egypt. During the seventh century B.C., the Egyptian demand for mercenaries led many young Greeks to seek their fortunes there. Their bronze helmets and body armor made them a particularly formidable fighting force. Greek armored infantrymen were known as *hoplites* and fought in disciplined massed formations. They were first employed in Egypt by Pharaoh Psammetichus I in 664 B.C., and the policy was followed by Psammetichus II

(595–589 B.C.). During the latter's reign, Greek soldiers returning from a campaign in Nubia carved graffiti on the leg of one of the colossal statues of Ramesses II at Abu Simbel. These are among the very earliest Greek inscriptions.

Egyptian influence on Greek sculpture is particularly evident in the pieces known as *kouroi* (singular *kouros*), standing statues of naked youths. Though they are essentially Greek in origin, the idea of large-scale stone sculptures was almost certainly taken from Egypt. There was definitely no Mycenaean tradition of large-scale sculptures to look back to, and certain details of the pose, such as the clenched fist and slightly advanced right leg, seem to have been borrowed directly from Egypt. Together with their female equivalents, the *korai* (singular kore), the *kouroi* provide one of the clearest indicators of the distribution of Greek culture during this period (see Figure 10.4).

FIGURE 10.4A Greek *kouros*. National Archaeological Museum, Athens, Greece. Copyright Leemage/Universal Images Group/Getty Images.

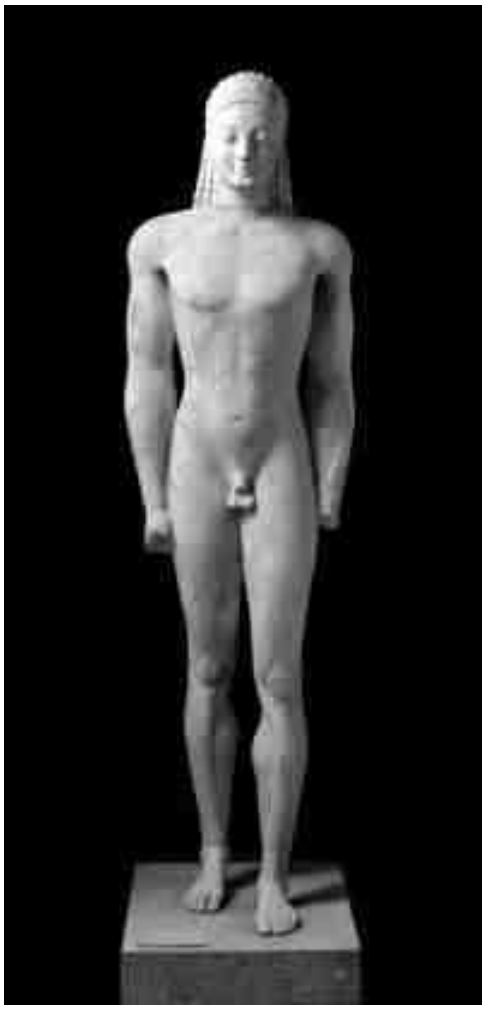
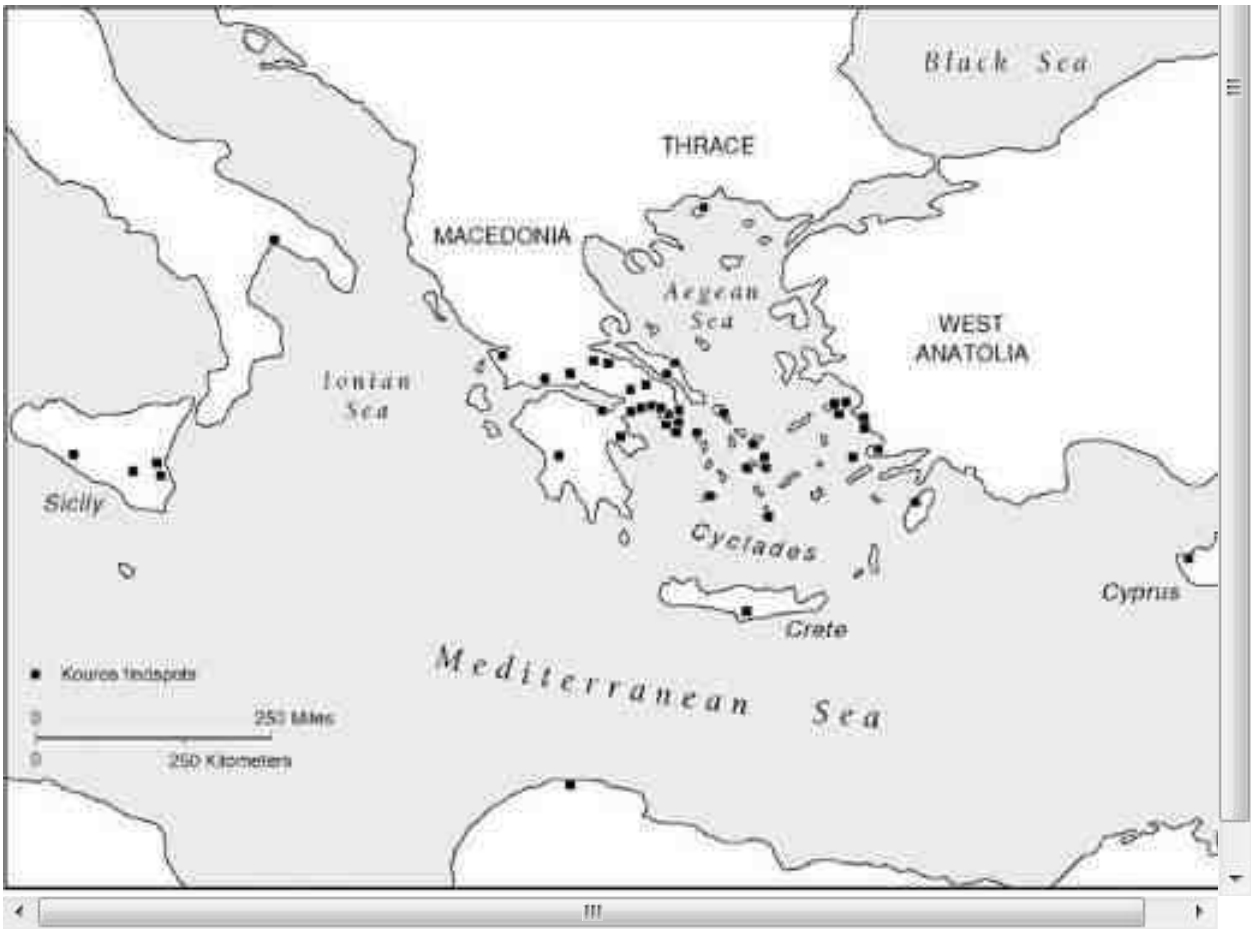


FIGURE 10.4B Distribution map of *kouroi*.



Greek architecture, too, came of age in these formative centuries. Both of the major Greek orders—Doric, with its simple cushion capitals, and Ionic, with its more decorative volutes and leaf ornaments—originated in the late seventh and early sixth centuries B.C. The simpler Doric was the principal style in Greece itself and in the western colonies; it was used, for example, in the Temple of Apollo at Corinth and in three temples at Paestum. The most famous of all Greek temples, the fifth-century Parthenon at Athens, has an exterior colonnade in the Doric style. The more elaborate Ionic style originated in the wealthy Greek cities of western Turkey, where it was used in ambitious structures of breathtaking scale: the great Temple of Artemis at Ephesus and the unfinished Heraeum on Samos. These were statements in stone, proclaiming the power and confidence of the eastern Greek cities. They are also the largest classical temples ever begun.

THREE GREEK CITIES: ATHENS, CORINTH, SPARTA

Corinth was probably the wealthiest city of mainland Greece in the sixth century B.C. It was a great manufacturing center with extensive trading activities, building on its strategic location at the base of the narrow isthmus that divides the rest of Greece from the Peloponnese. It was governed by a series of "tyrants," not the oppressive kind of rule we associate with the word today, but a government headed by one man, often backed by a citizen army to thwart the domination of powerful aristocratic families. The economic power of Corinth in the age of the tyrants is vividly reflected in the spread of Corinthian pottery. The most famous products are the miniature *aryballoi*, or perfume jars. The painted decoration of these vessels borrowed eastern motifs such as winged griffins to create an attractive polychrome style (known as *Orientalizing*), which circulated widely in both the east and west Mediterranean until supplanted by the popular Attic black-figure ware in the late sixth century B.C.

In contrast, Sparta, the other great Peloponnesian state, remained predominantly agricultural in its economy and concentrated its efforts not on overseas commerce (though it did found the important Italian colony of Taras —modern Taranto) but on territorial expansion at home. This began with the conquest of the neighboring region of Messenia in the late eighth century B.C., consolidated in the face of a major Messenian revolt in the middle of the seventh century. The conquered Messenians were reduced to servitude and added to the class known as *helots*, who performed most of the agricultural labor, handing over half of their produce to their Spartan masters. The impact of Spartan control is visible in the settlement pattern: The Messenians were organized into a series of tightly nucleated villages that contrast with the dispersed farmsteads found in other regions of classical Greece. It was during this period that Sparta became a rigidly disciplined state dominated by military ideals. Almost alone among ancient Greek cities, Sparta dispensed with the idea of a city wall and relied instead on its redoubtable army for protection. The Messenian wars had one other important consequence: They established the dominance of the armored infantryman, the *hoplite*, in Greek warfare for over three centuries (Box 10.1). Sparta went on to conquer the southeastern Peloponnese in the sixth century B.C., establishing its ascendancy over the whole peninsula.

Box 10.1 Discoveries *The Rise of the Hoplite*

The *hoplites* were the armored infantrymen who provided the backbone of classical Greek armies. They were essentially ordinary citizens—neither aristocrats nor the very poor—who could afford to equip themselves with the heavy infantry armor that was adopted by Greek armies from the end of the eighth century. This consisted of a bronze breastplate, fashioned to reflect the shape of the male torso; a bronze helmet with nose and cheek pieces; bronze greaves to protect the lower legs; and a circular or elliptical bronze shield. The outfit was known as a *panoply.* Offensive weapons were an iron-tipped thrusting spear and a straight iron sword. Fighting in close formation on suitable terrain, the *hoplite* army was a slow-moving but highly effective military formation, which could even withstand cavalry charges. The bronze body armor made the soldiers largely immune to arrows and other missiles. The new weaponry placed military power in the hands of ordinary citizens; Greek armies were no longer dominated by a handful of mounted aristocrats, supported by a body of ill-armed, peasant foot soldiers. Instead it was the toughness of the male citizenry as a whole that was responsible for a city's safety. The introduction of the *hoplite* was one of the changes that helped undermine the power of the aristocracy and promote the rise of citizen assemblies as the ruling force in the Greek city-states.

Athens underwent a slower development during this period. Economically, it stood somewhere between Corinth and Sparta, an important commercial and manufacturing center but also a territorial power supported by the agricultural productivity of Attica. Sparta and Athens were indeed exceptional among Greek city-states in having such large agricultural hinterlands. Early tensions at Athens between the rich and the poor were eased in the 590s B.C. by the famous Athenian lawgiver Solon, who instituted a number of constitutional reforms intended to reduce the oppression of the poorer classes and outlaw slavery among Athenian citizens. These reforms were important in providing a basis for the introduction of democracy later in the century. After Solon, however, tyrants (Peisistratus and his sons) took control of Athens and held it on and off for almost fifty years (556–510 B.C.). The tyrants beautified the city, building new temples, patronizing the leading poets of the day, and elaborating the Panathenaia—the procession held every year (and with special ceremony every fourth year) in honor of Athena, the city's patron

deity. It is this procession that many people think is depicted on the later Parthenon frieze (the so-called Elgin marbles). Athens during the sixth century also became a center of innovation, producing the new Attic black-figure pottery in enormous quantities and shipping it to overseas markets as far afield as Scythia and Celtic Gaul. Athenian-decorated pottery retained its popularity into the fifth century B.C., though black-figure was replaced by the new red-figure technique around 530 B.C. (see Box 10.2).

Box 10.2 Discoveries *Black- and Red-Figure Pottery*

Painted pottery is one of the most distinctive products of classical Greece. The most famous vessels are those produced in Attica (the area around Athens) during the late seventh, sixth, and fifth centuries B.C. These fall into two broadly successive styles, known from their decoration as black-figure and red-figure (Figure 10.5). The basis of both techniques is the liquid clay slip applied to the surface of the vessel. In a special sequence of oxidation and reduction firings, the slip turns black and the rest of the vessel orange. In the black-figure technique, the figures or designs were black, whereas in the red-figure case the surrounding surface was black, leaving the figures or motifs standing out in red silhouette. In black-figure pottery, internal details of the figures could be marked by carefully scratching away the black layer to reveal the red beneath; other details were sometimes added in white or purple paint. This was the technique taken over by the Athenians from Corinthian potters in the seventh century B.C. and enhanced by them until Athenian black-figure ware led the field. Red-figure ware was an invention of Athenian potters themselves, probably around 530 B.C., though it was some years before it supplanted the popular black-figure ware. Red-figure decorations were simple, bold shapes, with internal details of the figures painted in black; to many eyes it represents the height of Athenian vase painting. It remained in vogue well into the fourth century B.C.

FIGURE 10.5 (a) Athenian black-figure vessel. Note the typical decorative “Greek key” frieze around the base (fifth

century B.C.). Luisa Ricciarini/Bridgeman Images. (b) Athenian black-figure skyphos, c. 500–490 B.C. depicting on the left the mythical sphinx, with human head, lion body and wings of a bird.

(a)

(b)

Some Attic vessels carry the name of an individual potter. Well-known examples include Amasis, Ergotimos, and Kleophrades. Potter and painter were not usually the same person, though both operations were probably carried out in the same workshop. These were generally small, family-run establishments. Vase painters sometimes moved among them. Identification of the individual vase painters is a straightforward matter when they signed their products, but otherwise it must depend on the less-secure process of stylistic analysis. This kind of analysis is associated especially with the name of British art historian Sir John Beazley, who carried out a comprehensive study of Athenian black- and red-figure wares and grouped them, where possible, according to their painters. He worked on the basis (already accepted in the field of Renaissance art) that it is in the minor details, such as ears, ankles, and drapery, that a painter is most likely to reveal himself. Hundreds of painters have been identified in this way, though only a few (e.g., Exekias, Brygos, and Euphronios) are known by their real names on the basis of their "signatures." Others are named after some famous subject (e.g., the Nausikaa painter), by the potter with whom they were associated (e.g., the Amasis painter), by where their products were found (e.g., the Agrigento painter), or even by some peculiarity of their style (e.g., the Elbows-Out painter).

The identification of individual potters and vase painters should not lead us to exaggerate the value of this pottery in ancient Greece and the status of Athenian potters. The craft was a lowly one and that the vessels themselves were not especially valuable, despite the skill that went into their manufacture. Some features of black- and red-figure pottery, however, were expressly designed to imitate the much more valuable gold and silver vessels used by the wealthiest citizens.

CLASSICAL GREECE (480–323 B.C.)

The transition between the Archaic and classical periods of ancient Greece is marked by the successful resistance of the southern Greek city-states to the Persian invasion of 480 B.C. (Figure 10.6).

FIGURE 10.6 Bronze helmet of “Corinthian” type from the Greek sanctuary at Olympia in the Peloponnese, late sixth century B.C. Greek infantrymen, heavily protected by bronze helmets, breastplates, and greaves, were a highly effective fighting force and successfully defeated the Persian invasion of 480–479 B.C. Leemage/UIG via Getty Images.

One of the key features of ancient Greek society was the emphasis on Greek ethnicity. The fifth-century historian Herodotus puts a speech into the

mouths of the Athenians that expresses this view very clearly, referring to "the kinship of all Greeks in blood and speech, and the shrines of the gods and the sacrifices that we have in common, and the likeness of our way of life." The Greeks recognized themselves as different and separate from the "barbarians" around them. The very word *barbarian* was a Greek invention, intended to convey the sound of a foreign (non-Greek) language (*barbarbar*. . .). In a negative sense, the Greeks came to distinguish themselves as civilized and the barbarians as vicious and cruel. This assessment was narrow-minded and arrogant, not least since it included as barbarian all the urban societies of Southwest Asia. Nor could the modern student consider ancient Greece an entirely civilized society, given its heavy reliance on slaves, whatever the glories of Greek art and literature. But the Greeks' recognition of their ethnic identity did have more positive results. It led to a concept of Hellenism—of essential "Greekness"—that was widely shared, whether in the colonies of the Black Sea or western Mediterranean or in Greece itself. It also found expression through Pan-Hellenic festivals, which all Greeks were permitted to attend, accompanied by athletic and other contests in which they could all compete. These festivals were held at four major shrines: Olympia (site of the Olympic Games), Delphi, Nemea, and Isthmia.

Although sharing a common language and culture, ancient Greek society had a highly competitive ethos (seen in the games); the Greek city-states were never politically united, nor did they share a unified political purpose. This became especially clear during the Classical period (480–323 B.C.). The period opened with a determined attempt to conquer Greece by the Persian rulers Darius and Xerxes. The failure of the invasions, secured by Greek victories at Marathon (490 B.C.), Salamis (480 B.C.), and Plataea (479 B.C.), was embroidered by Greek writers who emphasized Greek heroism and cooperation in the face of overwhelming odds. In fact, there were serious divisions among the Greeks throughout the campaigns, and in the final battle almost as many Greeks fought alongside the Persians as against them.

Victory in the Persian Wars was exploited by the Athenians for their own advantage. The Athenian fleet had ensured success in the battle of Salamis, and their ships had led the follow-up operations in the Aegean as the Persians withdrew. The Athenians used the Persian threat as a means of persuading many Greek cities, especially those in the vulnerable island or coastal areas, to form a defensive league (the so-called Delian League). Athens was so much the dominant partner in this arrangement that what began as a

defensive league was soon transformed into an Athenian empire. The fleet gave the Athenians the means to extort tribute from their fellow members; actual records of the tribute assessments and the amounts paid survive in fragments of the marble slabs set up at Athens.

The ascendancy of Athens led to challenges from other cities, which banded together under the leadership of Sparta and fought against Athens in the Peloponnesian War (431–404 B.C.). Athens was defeated, its fleet destroyed, and for a while, Sparta, and then Thebes, was dominant in Greek affairs. But still the city-states retained their autonomy, and it was only with the victory of Philip of Macedon at Chaeronea in 338 B.C. that they lost their independence. Henceforth, they were units within a broader Macedonian empire. The Classical period ends with the conquests of Alexander of Macedon (Alexander the Great) and his death in 323 B.C.

This sketch of political developments provides the backdrop for an account of society and culture in the most famous of the Greek city-states, Athens, in the period between the Persian and Peloponnesian wars.

Democracy and Slavery

Fifth-century Athens is famous both for its writers, sculptors, and architects and for its political institutions. The key political innovation was democracy—the rule of the people (from Greek *demos*, "the people," and *kratos*, "power"). The origins of this idea lay in an earlier tradition that placed the government of the city-state in the hands of an assembly of citizen-soldiers. Women, children, slaves, and noncitizens were therefore excluded. For most of ancient Greece, including sixth-century Athens, real power lay in the hands of wealthy aristocrats. The change at Athens occurred in 508 B.C., when a disenchanted aristocrat reformed the citizens' assembly, giving it new powers, and introduced the institution of ostracism—which allowed the assembly to exile any one citizen for a period of ten years without giving a reason. The word *ostracism* derives from *ostrakon*, a "potsherd," since those voting for ostracism scratched the name of that person on such a sherd. A number of sherds have survived, some marked with the names of known Athenian politicians such as Themistocles. The aim of ostracism was to avoid the rise of overmighty citizens who could dominate the state. No evidence of malpractice was required to justify the ostracism, merely a secret ballot.

The Athenian democracy reached its greatest development in the later fifth century, after important reforms in 462 B.C. From this time on, all Athenian officials were chosen by lot. Since not all citizens were wealthy, the state compensated for their loss of earnings while they were engaged on state duties. Remains of a remarkable machine for selecting jurors and magistrates have been found in the Agora at Athens. Eleven columns of slots held the name-tickets of potential jurors, but which column was chosen depended on whether a white or black ball appeared from the bronze tube mounted on the side of the machine when the crank handle was turned.

Impressed though we may be by the lengths to which the Athenians went to ensure fairness in their political system, we cannot ignore the fact that Athens was far from being a free society. Indeed, it has been estimated that there were as many slaves working in the Athenian silver mines at Laurion as there were male citizens of Athens itself. Slave labor was also used extensively in agriculture: The isolated rural towers that were widespread in the classical Greek countryside may have been overnight lock-ups for slaves employed in farming or mining. It was not only slaves who were unequal members of Athenian society: As already noted, women had a subservient position and could play no role in politics.

The Great Age of Athens

In a famous speech recorded (or invented) by Thucydides, the Athenian leader Pericles called Athens the "school of Hellas." It is certainly true that the cultural life of fifth-century Greece was nowhere livelier than at Athens. Here lived and worked the great dramatists Aeschylus, Sophocles, Euripides, and Aristophanes; the historian Thucydides; and the philosopher Socrates. Unusual in any ancient society, a high proportion of Athenians could read and write, more so than in the rest of Greece. In archaeological terms, the most vivid testimony to Athens's status and power is provided by the remains of buildings, monuments, and sculptures.

Box 10.3 Sites *The Building of the Parthenon (447–432* B.C.)

The Parthenon, built between 447 and 432 B.C., is often considered the climax and culmination of Greek architecture (see Figure 10.7). As the

principal temple of Athens, which was at the time the leading city of Greece, such an achievement is perhaps only to be expected. The podium of the present structure measures 31 × 70 meters (102 × 230 feet), making it far from the largest temple of ancient Greece, though what it yields in size it gains in detail and refinement. These refinements include minute adjustments to the vertical and horizontal lines of the columns and podium to counter optical illusions, which make long straight lines seem curved from a distance. Thus, the surface of the podium slopes gently upward toward the center by a factor of only 11 centimeters (4.3 inches), while the external columns are placed to lean slightly inward, by 6.5 centimeters (2.6 inches) in a height of 10.4 meters (34 feet); their surfaces are not rigidly straight but have been given a slightly convex profile (a feature known to Greek architects as *entasis*). The marble for the Parthenon came from Pentelikon, in the mountains east of the city. There it was quarried, roughed out, and placed on carts to be brought to the Acropolis for final finishing. Only after many years was the work sufficiently advanced for the famous Parthenon sculptures to be put in place. These were designed by Pheidias, the greatest Greek sculptor of the day, who had also created the enormous gold and ivory statue of Athena Parthenos, over 11 meters (36 feet) tall, to stand inside the sanctuary. Paradoxically, though it is far and away the most famous temple of ancient Greece, the Parthenon may never have been intended as a functioning temple at all since there was no provision for an altar, and no official cult of Athena Parthenos existed when it was built. It was, nonetheless, a powerful symbol of Athenian greatness.

FIGURE 10.7A The Parthenon, the famous fifth-century Doric style temple on the Athenian Acropolis. Robert Harding/Alamy Stock Photo.

FIGURE 10.7B Detail of the Parthenon frieze, showing young aristocrats riding in procession. VPC Travel Photo/Alamy Stock Photo.

The most famous of all Athenian monuments are the temples and the sculptures that adorned them: the Parthenon, sacred to the city's patron deity, Athena Parthenos (see Box 10.3); the smaller jewel-like temple of Athena Nike, reconstructed in modern times from the blocks built into a bastion during the Turkish occupation of Greece; the Erechtheion, the holiest shrine of Athens, with the columns of its porch carved in the shape of standing maidens; and the most perfectly preserved of Athenian temples, that of Hephaistos on the edge of the Agora (known as the Theseion from its sculptures, which depict the legendary Athenian ruler Theseus). Fifth-century Athens could boast of many other outstanding buildings: the Theater of Dionysus on the southern slopes of the Acropolis; the famous Long Walls, which connected the city with its harbor at Peiraeus some 8 kilometers (5 miles) to the west; and the civic buildings and offices clustered around the Agora, including the *bouleuterion* (or city council chamber), the smaller *prytaneion* for the executives, the law courts, and a number of *stoae* (covered colonnades). One of the *stoae* (the Stoa Poikile) was a gallery of paintings;

another (the Stoa of Zeus), a favorite meeting place of philosophers, including Socrates and the so-called Stoics (who took their name from this very building). The Agora was indeed the commercial and administrative heart of the city, just as the Acropolis was the religious center (and could in times of war revert to its original role as the citadel of Athens) (Box 10.3).

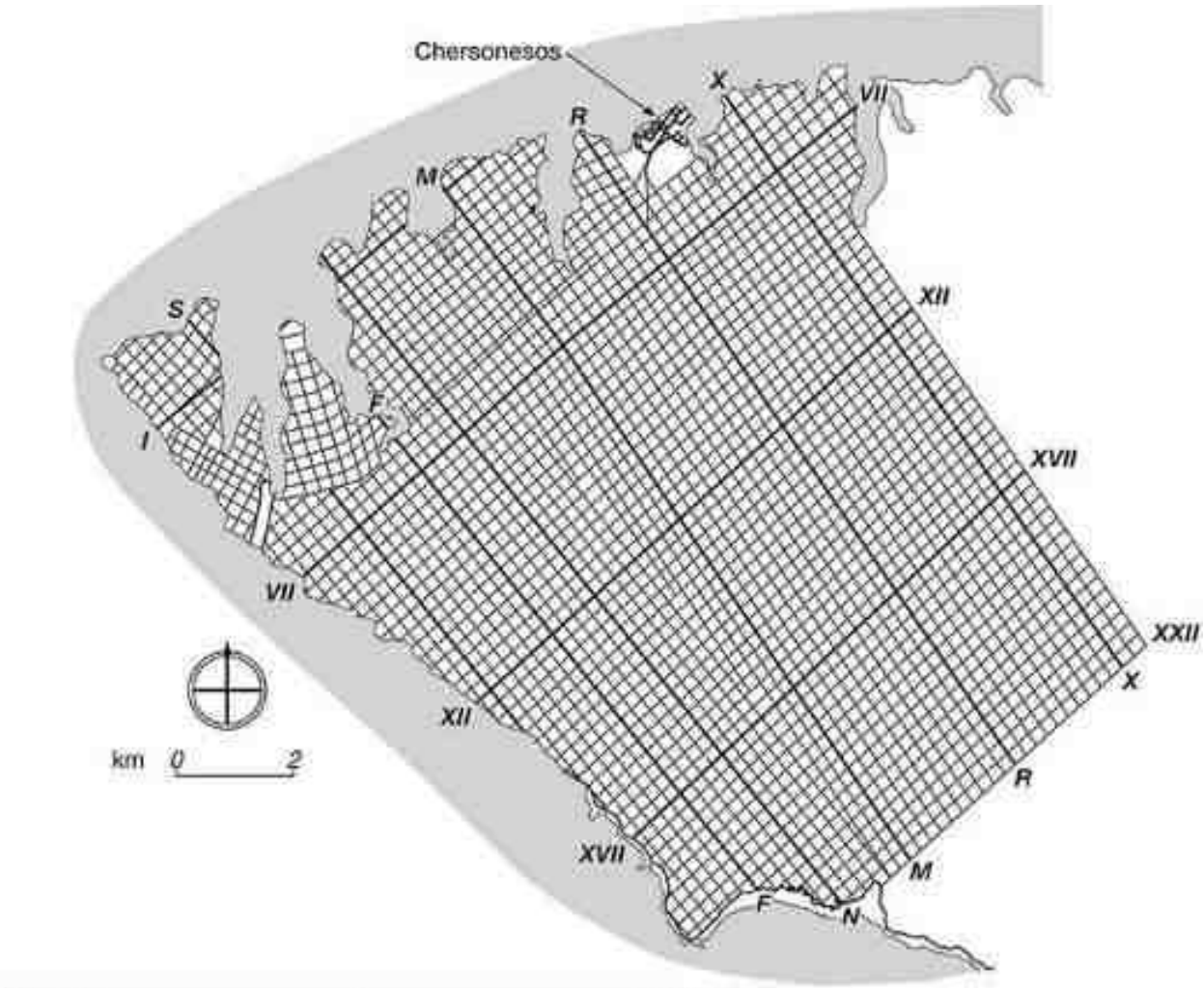
Among all these buildings, one feature stood out: the wealth of images. Ancient Greek cities were full of them: bronze statues, now largely melted down and lost; marble statues, originally painted in vivid colors and making a far different impression from that of the chaste white marble in which they have come down to us; reliefs and wall paintings on temples and public buildings. Many showed gods and goddesses and scenes from Greek mythological tales or legends such as the Trojan War. Others represented civic heroes and leading statesmen and generals: citizens who had deserved a place on the roll of fame in the service of their city. Even victors in the Olympic Games might be commemorated in this way. Such images were the visual counterpart of the democratic constitution, promoting civic values and imbuing Athenians with a sense of pride in their city.

The Ancient Greek Countryside

Around the well-known cities of ancient Greece lay the rural landscapes, which provided them with the food they needed for their rising populations. Transport was expensive, and most cities relied on the produce of their local area to meet the bulk of their subsistence needs. An exception may be Athens, which by the end of the fifth century B.C. had grown so much that it outstripped its local agricultural capacity. The response was to import cereals by ship from the Hellespont and Black Sea region. In general, however, classical Greek city-states depended on food grown within their own territories. That said, the quantities of transport amphorae discovered in surveys indicate that there was considerable movement of goods including farm produce. Studies of the rural hinterland of the Greek colony of Chersonesos, at the eastern end of the Crimean Peninsula, have revealed an agricultural landscape largely oriented toward the export of grapes (see Figure 10.8). The Argolid of southern Greece, by contrast, specialized in the production and export of olive oil. Other areas exported cereals.

FIGURE 10.8 Greek land division around the city of Chersonesos

FIGURE 10.5 Greek land division around the city of Chersonesos (Crimea). The checkerboard division of territory dates to the late fourth century B.C. and may be connected with the switch to intensive cultivation of grapes for export. Arterial roads M, R, and X divided the territory into three major blocks, which were then subdivided by the transverse roads VII, XII, and XVII. A defensive tower stood at each road intersection. The individual plots within these major divisions measured a regular 4.4 hectares (10.9 acres), and were themselves divided into vineyards, fruit orchards, and gardens. Approximately one half of the entire area appears to have been terraced for grape cultivation. Adapted from Joe Carter et al., "The Chora of Chersonesos in Crimea, Ukraine," American Journal of Archaeology 104 (2000), Figure 1.


Chersonesos
X
VII
R
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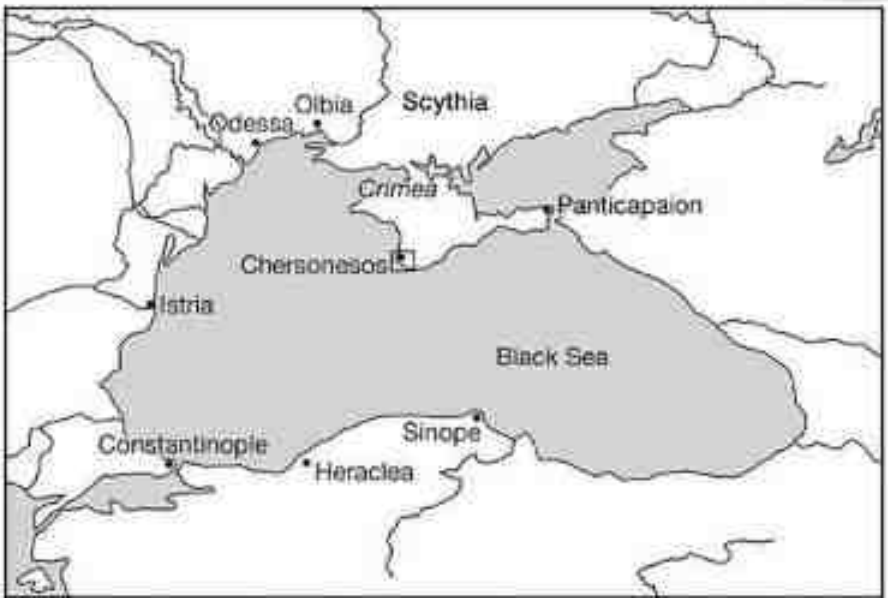

Olbia
Scythia
Odessa
Crimea
Panticapaion
Chersonesos
Istria
Black Sea
Sinope
Constantinople
Heraclea

Recent decades have seen a number of regional surveys that have attempted to trace the changing pattern of settlement and agriculture across entire Mediterranean landscapes during the first millennium B.C. In general, from Greece through Etruscan Italy to Iberia, these studies have documented a process of settlement dispersal coupled with agricultural intensification as cities developed and population levels rose. Rural populations no longer clustered in villages but were scattered in rural farmsteads close to their fields. The tightly nucleated villages of Messenia are an exception to this pattern, probably the consequence of repressive Spartan control of this region; when Spartan control was lifted in the fourth century B.C., Messenian rural settlement, too, became one of dispersed farmsteads.

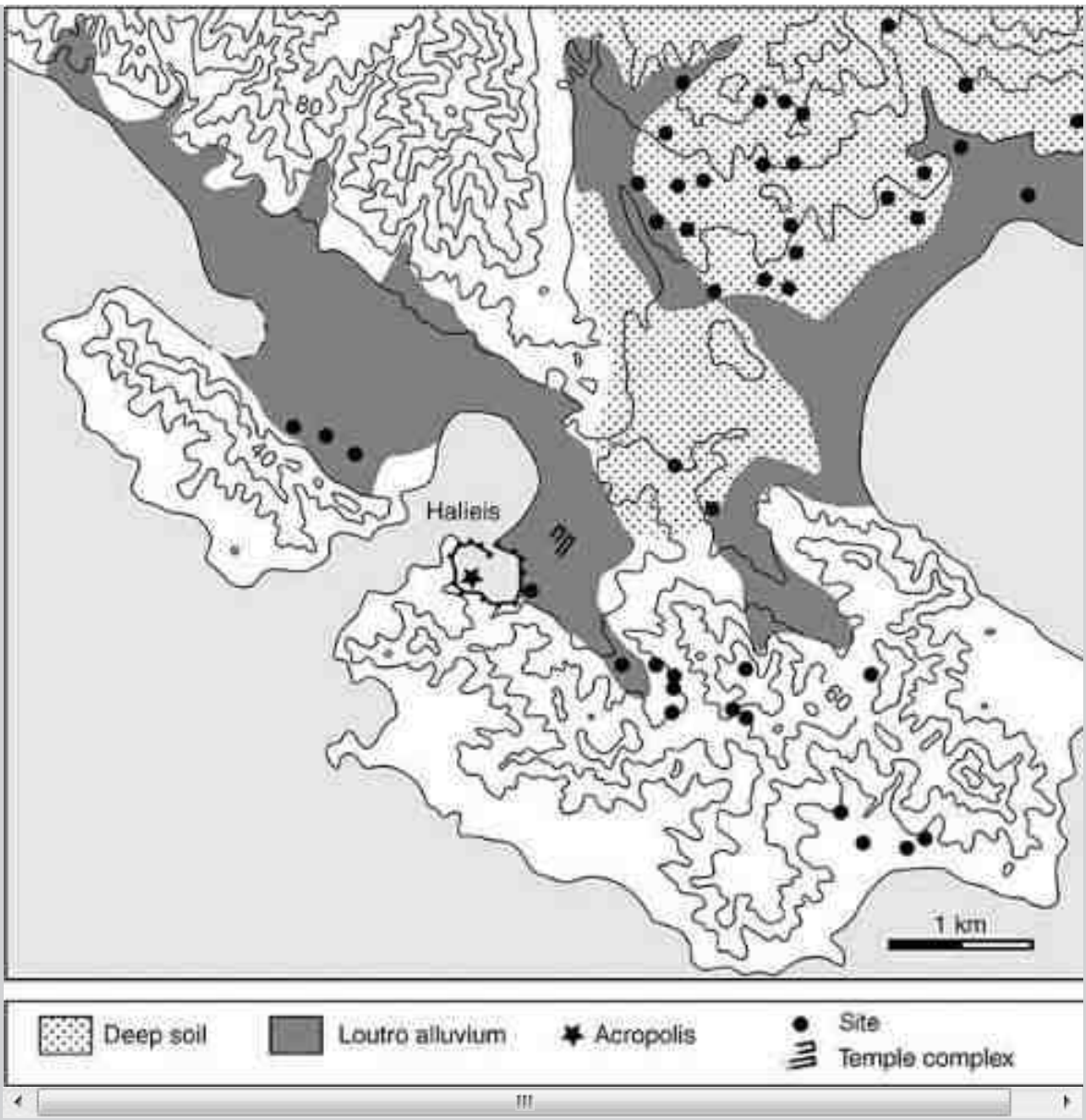
These surveys have identified the locations of individual farmsteads and small villages. Without resorting to expensive and time-consuming excavation, the researchers have used surface finds such as pottery to provide dating evidence for the sites and have thus been able to show changing patterns of settlement from prehistory to the present day (see Box 10.4). At the same time, they have found evidence for ancient farming practices, one being the "halo" of artifactual material that surrounds many sites. Some ancient cities have halos that extend over several square miles. In the Boeotia region of Greece these were interpreted as the result of the intensive use of manure: Animal dung, night soil, and other organic wastes (including the accidental admixture of discarded pottery and other cultural material) were carted to the edge of town and spread over the fields to increase fertility. Not everyone is convinced by this "manuring hypothesis," but such an intensive agricultural practice would be an indication of the high population density of many regions of classical Greece. It was probably during this period, too, that extensive stone-walled terraces were built on the hillsides, again reflecting population growth and the need to increase agricultural productivity, in this case by creating new fields.

Box 10.4 Sites *The Classical Countryside*

What did the landscape of classical Greece look like? Between 1979 and 1983 a team from Stanford University, led by Michael Jameson, Curtis Runnels, and Tjeerd Van Andel, made an intensive field survey of the southern Argolid at the eastern end of the Peloponnese. In the course of

this work, they discovered several hundred archaeological sites of all periods and collected 45,000 ceramic pieces, mainly potsherds. Analysis of this huge body of material, coupled with the study of the soils and landscape, enabled them to chart changes in the settlement of the region from prehistory to the present day. The number of sites reached a peak during the fourth century B.C., when the area around the classical town of Halieis (see Figure 10.9) became an important center of olive production. This is shown by a combination of different kinds of evidence. On the one hand, rural settlements appeared at this time on stony alluvium and lower slopes, areas that give poor cereal yields but are ideal for olives. Olives were probably grown on terraces built on the hillsides, indicating a more labor-intensive use of the landscape. Further evidence for the production of olive oil comes from oil presses found both at rural farmsteads and at Halieis itself. The Argolid was noted for the cultivation of olives at this period and was a net exporter of olive oil. At the same time, cereal growing continued on the fertile and water-retentive deeper soils. Runnels and Van Andel suggest that the importance of olive production in the fourth-century Argolid may well be linked to political events in neighboring regions of Greece, notably the destruction of Athenian olive groves by Spartan forces during the Peloponnesian War (431–404 B.C.). Olive trees take many years to mature, and Athens would have been dependent on imported supplies for several decades. The Argolid is geographically close to Attica and would have been well placed to supply that need. It would also have supplied newly expanding cities such as Thebes and Megalopolis that were situated in regions poor in olive groves. Thus, the southern Argolid survey is an illustration of the intimate way in which rural fortunes may be linked to the politics of the wider world.

FIGURE 10.9 Map of Halieis and its surroundings, c. 300–30 B.C.



To the west of the Argolid, in the area around Sparta, a similar survey project (the Laconia Survey) was followed up in the 1980s by a second stage (the Laconia Rural Sites Project), directed by William Cavanagh, Christopher Mee, and Peter James, in which twenty of the sites that had been discovered were selected for intensive study. Attention was focused on small sites likely to have been individual farmsteads, to understand how the landscape had been farmed. At the height of Spartan power, during the sixth and fifth centuries B.C., Spartan landholdings were farmed by tied workers known as helots, but the presence of fine drinking vessels at some of these sites suggests that the Spartan farm

owners also stayed there on occasion. This is despite the general prescription that male citizens in the highly regimented Spartan society had to eat together in common mess halls. The survey recorded eighty-seven settlement sites of the fifth century B.C., falling dramatically to only half that number in the following century, perhaps echoing Sparta's loss of military supremacy after the Battle of Leuktra in 371 B.C.

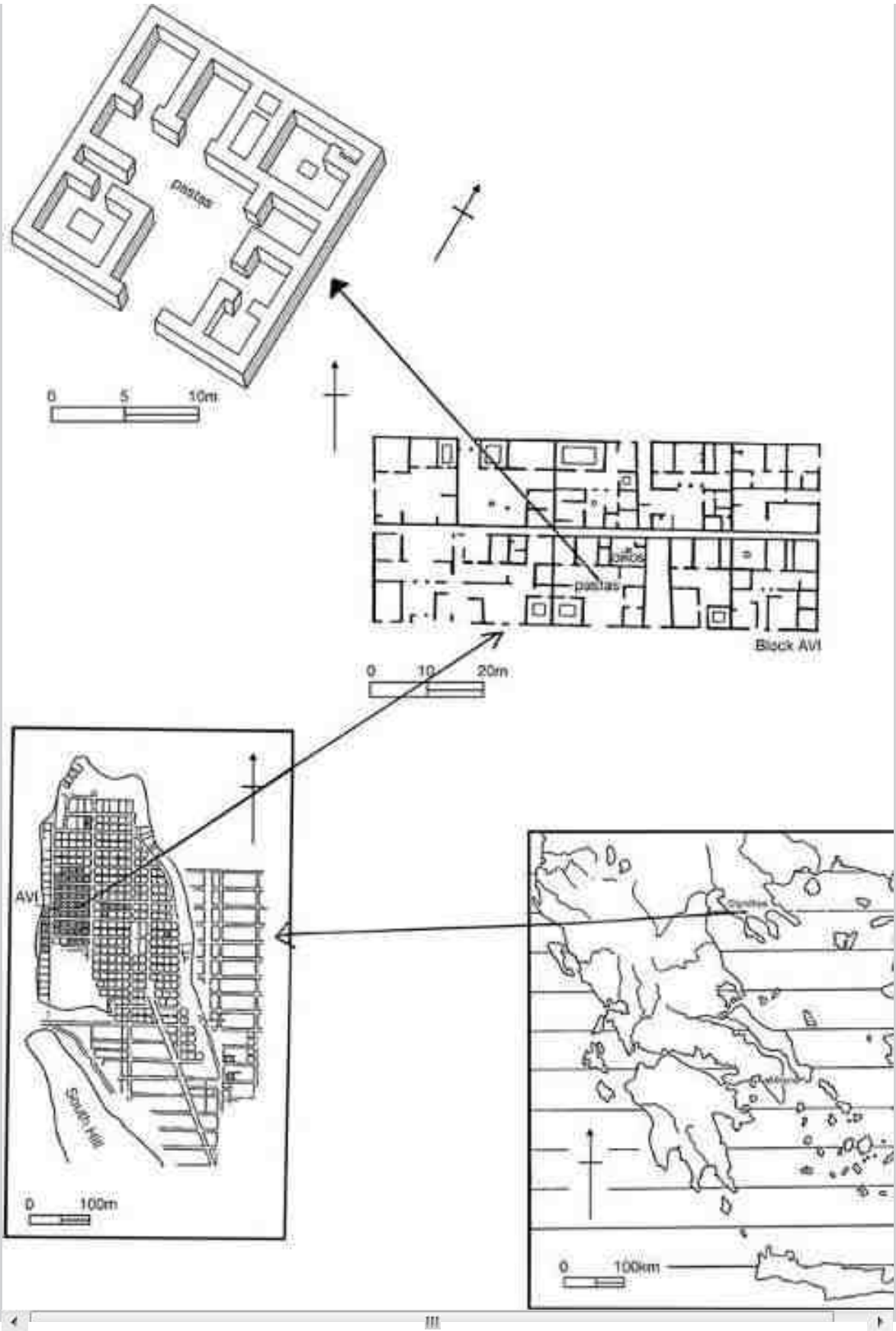
Excavations show that fifth- and fourth-century Greek farmsteads comprised the farmhouse itself, with a central court and outbuildings, and an attached walled enclosure, sometimes subdivided, in which livestock could be kept (see Box 10.5). Other parts of these enclosures may have been gardens or orchards of cultivated fruit trees. In one case a complete farm boundary wall has been found, enclosing an area of 9 hectares (22 acres). As we have seen, farmsteads rather than villages seem to have been the principal rural settlement in most regions of classical Greece. In some cases (for example, the southern Argolid in Box 10.4), it has also been possible to relate survey results for the rural economy to broader political and military events. One common feature documented by many regional archaeological surveys is a sharp decline in rural activity in the post-Classical, or Hellenistic, period (323–30 B.C.). Greek fortunes, as far as the countryside was concerned, did not reach fifth- and fourth-century levels again until the later Roman period.

Box 10.5 Sites *The Greeks at Home*

In classical Greece, sometimes credited with the invention of politics, the importance of public life and the citizen is well known from literary and historical texts. But what of the domestic settings in which much of everyday life was lived? In an archaeological study of Greek houses of the fifth and fourth centuries B.C., Lisa C. Nevett was able to show how domestic space was organized to accommodate and define the respective spheres of men and women, guests and household members. The best evidence came from the city site of Olynthos in Chalkidiki (northern Greece), where many of the houses were identical in size and shape and aligned in blocks along street frontages (see Figure 10.10). The central element was the open court *(pastas)*, reached from the street door along

a passageway. The rooms of the house were arranged around this court, which was often decorated with painted plaster and frequently had a portico along one side. Passing through the portico and an anteroom led one to the *andron*, also decorated with painted plaster, where male guests were entertained. Study of literary sources had led to the theory that, in the Greek house, male and female space was carefully segregated. The archaeological evidence from Olynthos and other sites shows, instead, that no such segregation was possible, as all the rooms were reached from the open central court. The seclusion of the *andron* behind a portico and antechamber does show, however, how guests, while being welcomed into the heart of the house, were kept somewhat apart from other household members. Thus, as Nevett concludes, the archaeological analysis of domestic space enables us to look beyond the stereotype of the ancient Greek house divided physically into separate male and female quarters and to explore the way in which the Greek household is likely to have operated in practice.

FIGURE 10.10 Greek houses at Olynthos: a city block and its residences.


pastas
0 5 10m
pastas
Block AVI
0 10 20m
AVI
South Hill
0 100m
Cyprus
0 100km

SEQUEL: THE HELLENISTIC WORLD

The reign of Alexander the Great (336–323 B.C.) marks a turning point in the history of Greece and Southwest Asia. When he came to power as ruler of Macedonia (a kingdom immediately to the north of Greece), his rule extended from the Adriatic to the Hellespont and as far south as the Peloponnese, but no further. Profiting from the decline of the Persian Empire, however, Alexander embarked on a campaign of conquest that took Greek and Macedonian armies to the Indus Valley in the east and brought Persia, Asia Minor, Mesopotamia, and Egypt under his sway. For a brief period the whole of this vast empire was united, but at Alexander's premature death in 323 B.C., the bonds of power quickly began to dissolve and his generals divided the empire among them—one taking Egypt and another Macedonia, while others squabbled over Asia Minor, Syria, and Mesopotamia.

The death of Alexander marks the end of the classical period and the beginning of a new period known as Hellenistic. It was marked by the expansion of Greek artistic traditions throughout the lands conquered by Alexander. Though not a Greek himself, Alexander was a keen promoter of Greek art and culture and sought to consolidate his conquests by founding colonies of Greek and Macedonian citizens. One of the most exciting discoveries was that at Ai Khanum, on the banks of the Oxus River in northern Afghanistan, where remains of a Hellenistic city, probably one of those established by Alexander, were excavated between 1964 and 1978. The finds include typical Greek architectural elements such as column capitals, indicating the existence of elaborate public buildings. There was a typically Greek gymnasium and a theater. Still more vivid are fragments of Greek philosophical writings and copies of maxims from the oracle of Delphi. Despite its remoteness from the rest of the Hellenistic world, this region (known as *Bactria*) survived as an independent Greek kingdom until 140 B.C., a period of almost 200 years. During these centuries, Greek Bactria had a major impact on sculptural traditions further east. The so-called Gandharan art of Pakistan and eastern Afghanistan embodies classical principles in a composite style best represented by a series of splendid seated Buddhas.

The heart of the Hellenistic world lay in the lands around the eastern Mediterranean. Here again, many new cities were founded by Alexander and his successors. Most famous of all was Alexandria, on the western edge of the Nile Delta. This grew to be the largest city of the Western world in the first century B.C., a great center of craftsmanship, commerce, and learning. The Ptolemaic rulers of Egypt embellished the city with a lighthouse (the famous Pharos) and a House of the Muses, or *Museion* (“Museum”), which included the famous Library of Alexandria. The city itself was a polyglot place, with Greeks, Egyptians, Jews, and others rubbing shoulders on its crowded quays and colonnaded streets. Like flourishing cities of more recent times, it also gained an unsavory reputation for street violence.

In the Greek-speaking cities of the Aegean and east Mediterranean, the classical art style was replaced at the end of the fourth century B.C. by a new style, known (like the period itself) as *Hellenistic.* In portrait sculpture, one of the major new trends was the emphasis on the realistic portrayal of individuals. Classical sculptors had presented a naturalistic but idealized image of the human body. Their Hellenistic successors showed their subjects as recognizable individuals, leaving us an impressive portrait gallery of famous figures that includes rulers, athletes, and philosophers.

Changes in sculpture and portraiture are only one element in a whole suite of Hellenistic artistic innovations. The technique of decorative mosaic, using colored cubes of cut stone or glass *(tesserae),* was a Hellenistic invention of the third century B.C. Houses were decorated with vivid wall paintings, some portraying historical events or mythological scenes, and others depicting landscapes or architectural fantasies. But many of the greatest examples of Hellenistic art were intended for public display, such as the Great Altar of Pergamum, with its 2-meter-high (6-foot-high) frieze of warring gods and giants. The cities were the showcases of the Hellenistic dynasties, and Hellenistic rulers expended considerable wealth on statues, theaters, temples, and colonnaded streets.

One of the greatest differences between the Hellenistic world and classical Greece was that of scale. The cities of classical Greece, for all their achievement, had generally been only modest in size and territory; Athens stands out partly because it was so exceptional. The conquests of Alexander the Great gave Hellenistic rulers vast realms to govern and placed enormous resources of wealth and manpower at their disposal. For ordinary people, the Hellenistic rulers were just the latest in a whole series of masters who sought

to derive maximum profit from their toil. In many of the conquered areas, there is archaeological evidence of increased commercial and agricultural activity, the latter probably linked to an imperialist-style exploitation of the new territories.

Another major difference lay in the multicultural character of the Hellenistic kingdoms. Greek language and Greek culture may have been powerful, but they by no means extinguished local traditions that stretched back many thousands of years. In Egypt, for example, royal inscriptions were written in hieroglyphic even though the ruling family, the Ptolemies, were Macedonians, did not intermarry with the local population, and habitually spoke Greek. In other regions of the Hellenistic world, a curious hybrid culture developed, combining Greek elements with local styles.

The political history of the Hellenistic kingdoms is one of almost continual warfare and intrigue. By the end of the third century B.C., the Hellenistic world was divided into three major kingdoms: Ptolemaic Egypt, Seleucid Syria and Mesopotamia, and Macedonia. In western Asia Minor, the smaller kingdom of Pergamum had managed to establish itself among these major powers. Despite their size and resources, none of these kingdoms were able to resist the advance of Rome from the west. Macedonia, Greece, and Pergamum became Roman provinces in the mid-second century B.C.; Syria and most of the rest of Asia Minor followed by the middle of the first century. The last of the great Hellenistic kingdoms, Egypt, fell to the Romans with the death of the last Ptolemaic ruler, Cleopatra, in 30 B.C. Hellenistic art and culture, however, continued to thrive under the Roman Empire.

The rise of Rome and the archaeology of the Roman Empire are the subjects of Chapter 11.

Summary

We have reviewed the development of Mediterranean civilization from the beginning of the first millennium B.C. to the end of the Hellenistic age in the first century B.C. The treatment has focused on three separate peoples: Greeks, Phoenicians (or Carthaginians), and Etruscans. Two further themes run through the chapter: the foundation of new cities by the process of colonization and the government of the cities themselves, which formed autonomous political units (city-states). The wealth of textual evidence gives

a much richer account of the classical world in the fifth century B.C. than any earlier period. Our ability to comprehend the texts, however, should not blind us to the reality that the world of fifth-century Athens, for example, was very different from our own, with attitudes toward women and institutionalized slavery that would be unacceptable today. The demise of the city-states of Greece and Etruria coincided with the rise of territorial polities much larger and more powerful than an individual city—the empires of Macedon and Rome. The conquests of Alexander the Great initiated a new phase in the development of the classical world, one in which Greek culture spread widely throughout Southwest Asia, providing a superficial level of unity and a heightening of civic and commercial activity. This continued as the Hellenistic kingdoms were steadily absorbed into the Roman Empire.

Note

1. There are a number of conflicting schemes for Etruscan chronology. The one used here broadly shadows the customary scheme for classical Greece, a situation that reflects the fact that the dates of the Etruscan phases are based largely on imports of Greek painted pottery and Southwest Asian artifacts.
2. We have chosen to use the term *Archaic* to cover the whole of this period, though some authorities divide it into two, *Orientalizing* (750–600 B.C.) and *Archaic* (600–480 B.C.), while others consider the terms *Orientalizing*, *Archaic*, and *Classical* judgmental and propose that they be abandoned.

CHAPTER 11

Imperial Rome

FIGURE 11.0 Marble bust of the Roman emperor Hadrian (A.D. 117–138). Araldo de Luca/Getty images.

The rain blew gustily across their faces as they made their way along the parapet walk, cloaks wrapped tightly around them to keep out the worst of the weather. You could well imagine that you were near the edge of the known world, with the vast expanses of the ocean only a few days' travel to the west. Their harness clinked in time to their measured footsteps as the soldiers returned from their tour of duty at the watchtowers along Hadrian's Wall. It was a far cry indeed from the sunny Mediterranean. These men were not Italian legionaries, however, but auxiliary troops, Tungrians from the low-lying lands near the mouth of the Rhine. Their job was to watch for any

sign of trouble from the Celtic Votadini to the north. It was dull work, especially unpleasant when the winter rain drove horizontally. Soon, now, they would be in their messroom at the fort of Vercovicium (Housesteads), warming themselves by the fire and enjoying a good meal. While the tribes beyond the wall remained quiet, frontier duty seemed a pointless task. But the very presence of the soldiers, part of an army of 300,000 men, deterred the barbarians from even contemplating hostile action. And the wall itself, a massive masonry barrier 120 kilometers (80 miles) long, was a constant reminder of the might and majesty of Rome.[1]

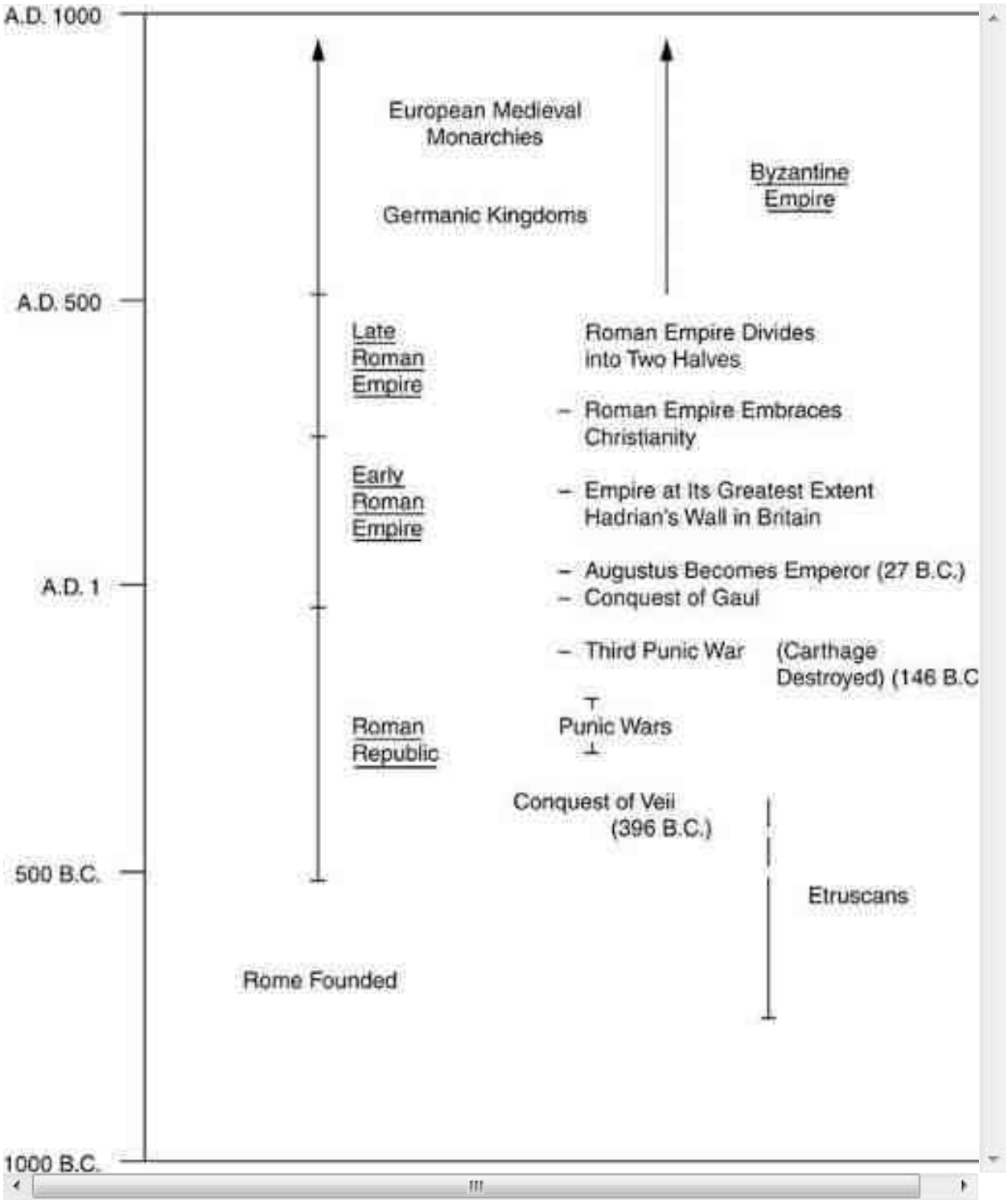
CHAPTER OUTLINE

The Roman Republic (510–31 B.C.)
The Early Roman Empire (31 B.C.–A.D. 235)
The Culture of Empire
    Artists and Architects
The Military Establishment
    Imperial Frontiers
Arteries of Empire: Roads and Sea-Lanes
    Roman Highways
    Roman Seaways
Cities
    Commerce and Coinage
    Literacy and Writing
The End of the Ancient World

This chapter describes the last of the great civilizations of the Western Old World: ancient Rome. This was not only a cultural entity but also a political one: a vast empire, binding together peoples of different languages and skin color and different religious beliefs and cultural values. How it succeeded in doing so and in surviving as an empire for over 500 years is one of the main themes of the chapter (see Table 11.1). Rome began life as an unexceptional settlement on the banks of the River Tiber. Tradition, supported by Livy and other historians, held that it was founded in 753 B.C., perhaps through the coalescence of several earlier villages. The legendary founder, Romulus, has

long been thought to be fiction, though excavations on the Palatine and Capitoline Hill and beneath the Forum have produced intriguing results. Remains of early Iron Age huts were found several decades ago on the Palatine Hill, and may represent one of the early villages. There are cemeteries of cremation and inhumation graves nearby. A number of earlier burials, dating back to the Late Bronze Age (before c. 1000 B.C.), have been found nearby. More directly relevant to the foundation of the city is the discovery of a rectangular timber "palace," with courtyard and timber columns, below the Forum near the Temple of Vesta. Dated to the eighth century B.C., this substantial building may have marked the beginning of a process of urbanization that was heavily influenced in the centuries to follow by contact with Rome's Etruscan neighbors to the north. A timber wall and gateway at the foot of the Palatine has been dated to the same period. During the seventh century, the low-lying marshland at the foot of the Palatine and Capitoline hills was drained and laid it out as a public, open space, becoming the Forum, or marketplace of Rome, and also the seat of civic administration. Etruscan influence, too, was responsible for the first large-scale buildings at Rome, including a temple to Jupiter Optimus Maximus (Jupiter Best and Greatest), the principal god of the Roman pantheon, on the Capitoline Hill.

TABLE 11.1 Chronological table of Chinese civilizations



THE ROMAN REPUBLIC (510–31 B.C.)

Early Rome was governed by kings, but in 510 B.C. the leading families overthrew the last of them and established a republican constitution. This mirrors the pattern in many Etruscan cities, where kings were replaced by oligarchies (groups of aristocrats) in the sixth century B.C. (see Chapter 10). Rome at this stage was still a city-state, a small town surrounded by the rural territory under its control. It was also thoroughly Italian, in the sense of being Latin (in the region of Latium), with Etruscan influences from the north (including the *fasces,* or bundles of rods, symbols of power that are the origin of the modern word *fascism*); it was certainly not Greek. The Greek-style temples and statues came much later, in the second century B.C., as the original city-state of Rome grew to become the capital of a regional empire.

This process began with the conquest of Italy. As early as 396 B.C. the Romans had captured and annexed the important Etruscan city of Veii, their nearest rival though only half the size that Rome had grown to by this period. Over the next century and a half they extended their sway throughout the whole of Italy, not by force of arms alone, but by an astute mixture of war and diplomacy. Once they controlled Italy, they became a rival to the other major power of the western Mediterranean: the Carthaginians. The Romans defeated them in two major wars: the First Punic War (264–241 B.C.) and the Second Punic War (218–201 B.C.). It was in the Second Punic War that Italy was invaded by the brilliant Carthaginian general, Hannibal. Despite crushing victories at Lake Trasimene (217 B.C.) and Cannae (216 B.C.), Hannibal was unable to capture Rome itself, and the Romans eventually invaded North Africa and defeated Hannibal at Zama (202 B.C.). Carthage was never again a major power. Victory in these wars gave the Romans control over their first territories beyond the Italian peninsula: the island of Sicily and former Carthaginian possessions in Sardinia and southern Spain.

The pace of overseas conquest quickened during the second century B.C., when the Romans cast their eyes eastward and absorbed Greece and parts of Asia Minor, as well as the region known to them as Africa (modern Tunisia), after the final defeat and destruction of Carthage in the Third Punic War (149–146 B.C.). The conquered territories became provinces of the Roman Empire, ruled by a governor appointed by the Senate at Rome. Governors had wide powers and often abused their position, lining their pockets at the expense of provincial populations. The provinces were also exploited by ruthless Italian entrepreneurs, who gained mining concessions and trading monopolies, not always by the fairest of methods. Roman Italy grew

increasingly wealthy and increasingly cosmopolitan in culture. The greatest cultural impact came from the Greek territories of the Aegean and (since Alexander the Great's conquests) the Near East. A famous Roman writer quipped that conquered Greece had taken her fierce victor captive (*Graecia capta ferum victorem cepit*), and indeed the face of Rome itself became increasingly Hellenized as Greek architectural features and Greek sculpture—some looted from Greece, the rest Roman copies—became the fashion of the day. Greek even began to replace Latin as the language of educated discourse.

The Roman Empire continued to expand during the first century B.C. and spread for the first time beyond the Mediterranean basin with Julius Caesar's conquest of Celtic Gaul (58–51 B.C.) (see Figure 11.1). By this time the power of the Senate, the traditional governing body, was increasingly overshadowed by the leading generals of the day, who could call on the support of large bodies of highly trained soldiers. The result was civil war, as over mighty subjects used their military followings to fight against each other and overthrow the traditional constitution—as Julius Caesar did against Pompey the Great in 48 B.C. (Battle of Pharsalus) and Octavian against Mark Antony in 31 B.C. (Battle of Actium). Octavian's victory at Actium gave him unchallenged power and enabled him to transform the Roman constitution. He became the first Roman emperor, taking the title *Augustus*.

FIGURE 11.1 Map of the Roman Empire in the second century A.D.

THE EARLY ROMAN EMPIRE (31 B.C.–A.D. 235)

Augustus (31 B.C.–A.D. 14) consolidated and expanded the Roman Empire, conquering the northern Balkans in order to take the frontier to the Danube, though in the west, campaigns beyond the Rhine overstretched his resources and led to a serious military retreat (Figure 11.2). Several further provinces were added to the empire during the first and second centuries A.D.: Mauretania, Britain, Dacia, and Arabia. One reason may have been strategic—the desire to stabilize and reinforce the frontiers—but the emperors' desire for military glory was an equally powerful motive.

FIGURE 11.2 Statue of Emperor Augustus in military regalia from Prima Porta, c. 20 B.C. Military success was an essential ingredient in the propaganda of imperial office. Many Roman emperors

claimed to be constitutional rulers, supported by the Senate and people, but it was control of the army that formed the bedrock of their power. adam eastland/Alamy Stock Photo.

The empire reached its greatest extent early in the second century A.D. By this date, Rome's domains stretched from Mesopotamia in the east to the Atlantic in the west and from Hadrian's Wall in the north to the Sahara in the south. It was a polyglot, multiethnic, multicultural realm, incorporating territories as diverse as the urbanized lands of the Greek east and the tribal

territories of the Celtic west. Latin, the official language, provided a veneer of uniformity, but in the eastern provinces Greek remained the dominant language and was used even for official documents. Cities were founded in the less-developed provinces, and local elites were encouraged to adopt the trappings of Roman culture. In some areas, such as Gaul, Spain, and Africa (modern Tunisia), families of native origin came to play a major part in running the empire. This was part of the crucial change that took place during the first two centuries A.D., which saw the empire transformed from a series of tributary provinces, governed and exploited by Italians, to something that more resembled a commonwealth of provinces. The change is reflected in the origin of the emperors themselves: The first were wealthy Romans of aristocratic background (the Julio-Claudians, 31 B.C.–A.D. 68); then came middle-class Romans from central Italy (the Flavians, A.D. 69–96) and Roman families who had settled in Spain (Trajan and Hadrian, A.D. 98–138); finally Africans and Syrians who had only recently become Roman citizens (the Severans, A.D. 193–235). The process went still further in the third century, when the empire was under intense military pressure, and career officers of humble Illyrian background assumed the imperial purple.

Romanization is one of the key issues in the expansion of the empire. Most authorities now believe this was not a conscious Roman policy, but largely an indirect result of Roman rule and the economic, social, and political possibilities that it opened up to provincials. It is also debatable how far the empire in its different provinces marks a break with the past. In the east, as we have seen, there was continuity in commerce and city life. The Romans, indeed, learned many new skills from their eastern subjects and were heavily influenced by Greek architectural and artistic traditions. Greek literature was taken as a model by many Roman writers, some of whom even preferred to write in Greek. In the west, however, the picture was very different. Some have argued that the Celtic peoples of Gaul were already organized into states, with towns and coinage, before the Roman conquest. This argument proposes that these territories were in some sense preadapted to Roman rule, with aristocracies already won over by Roman luxuries and with systems of government ripe for annexation by a foreign power. Yet despite the existence of coinage and of large defended sites known as *oppida*, it is far from clear how centrally organized these societies really were; many of them, if not all, are better described as peoples than as states. On the one hand, the imposition of Roman rule marks a rupture in their development, not

merely the acceleration of an existing trend toward statehood and cities. On the other hand, this is not to say that native culture disappeared or was suppressed by the Romans, far from it. Native languages continued (for a while at least) to be spoken alongside Latin, and native deities retained their local followings, even though Roman deities (including the cult of the emperor) were established in major temples.

THE CULTURE OF EMPIRE

At the center of the Roman Empire lay Rome, the greatest city of its day. By the reign of Augustus, it had a population of probably half a million people. He and his successors poured money into new building projects, some of them utilitarian, designed to improve the basic facilities of the city (such as aqueducts and amphitheaters); others were monuments to the imperial rulers and their dynasties. The most overtly propagandist were the triumphal arches and victory columns erected in the principal public places: Trajan's Column, recording his conquest of Dacia in a frieze of spiraling reliefs; the arches of Titus and Septimius Severus, commemorating victories over Jews and Parthians; and many more. The first emperors also built a series of imperial *fora*, to supplement the facilities of the original Roman Forum, now too cramped to accommodate the needs of an imperial capital. Julius Caesar began the tradition, buying up land next to the old Forum, though he was murdered before the work could be completed. It was taken up by his adoptive son, Augustus, who also built his own Forum—complete with temple and colonnades, adorned with marble and colored stone, and statues proclaiming the emperor's supposed descent from the legendary hero Aeneas (Figure 11.3). Further imperial fora were built by the emperors Vespasian (A.D. 69–79), the "Forum of Peace"; Nerva (A.D. 96–98), the "Forum of Nerva," in reality largely the work of his predecessor, Domitian (A.D. 81–96); and Trajan (A.D. 98–117). Together with new buildings in the Forum Romanum they turned the area into a splendid imperial showcase.

FIGURE 11.3 Reconstruction of the Temple of the Divine Julius from the Forum of Julius, built by the emperor Augustus in memory of his adoptive father, the assassinated Julius Caesar. Gilbert J. Gorski & James E. Packer (2014) The

Roman Forum: a reconstruction and architectural guide. Cambridge: Cambridge University Press.

The emperors themselves lived on the Palatine Hill, in a residence that has given us the word *palace.* Augustus was careful to avoid any outward show of monarchy, mindful perhaps of the murder of his less-cautious predecessor, Julius Caesar. He lived in a rich but not palatial house on the Palatine. Later emperors built more lavishly. Nero (A.D. 54–68) famously bought up a large area of central Rome for his Golden House, a series of buildings set within parkland. It incorporated such ingenious features as ceilings that could shower perfumes and petals on assembled dinner guests. The principal buildings were on the Oppian Hill, close to the site later occupied by the Colosseum, itself named after a colossal statue of the emperor. After Nero's death, however, the Golden House was abandoned, and it was left to Domitian to build most of the huge, 4-hectare (10-acre) palace that is on the Palatine Hill today.

Domitian's palace was a far cry from the conditions in which the majority of Rome's inhabitants lived. Wealthy citizens could afford luxurious mansions with courts and gardens, but many people lived in crowded tenement blocks, several stories high. We get a better impression of these from the actual remains of Roman tenements at Ostia, the harbor town downstream from Rome. Roman writers made clear that tenement blocks were not always soundly built and that collapses were relatively common. Laws were passed to limit the height of buildings along street fronts, first to 18 and later to 21 meters (60–70 feet). There could have been no more vivid illustration of the enormous wealth differences in ancient Rome than the crowded tenements of the poor compared with the spacious garden suburbs of the rich.

Artists and Architects

The Romans were consummate architects and engineers. They developed new methods and materials for building and also drew on the rich heritage of Greek and Hellenistic architecture. In the eastern provinces, indeed, the earlier traditions continued to flourish under Roman rule. Many of the greatest surviving Roman buildings are found in Asia Minor and the Levant: the temples of Baalbek in modern Lebanon, for example, which illustrate the development of a baroque style of architecture and architectural decoration also present at Petra and Palmyra. The cities of Asia Minor, too, saw major rebuilding during the Roman period, and theaters, baths, and libraries were founded by wealthy citizens. By the second century A.D. even relatively minor cities possessed colonnaded streets and ornamental fountains.

The North African provinces also prospered under Roman rule, and here again there is a rich legacy in art and architecture. The amphitheater at El Djem (ancient Thysdrus), for example, is one of the largest and best preserved in the Roman world, built from the profits of the local olive oil industry. In North Africa, as elsewhere, some of the greatest buildings were imperial projects, funded by the emperor himself, for example, the baths at Carthage built by Antoninus Pius (emperor A.D. 138–161) and the basilica at Lepcis Magna begun by Septimius Severus (emperor 193–211), dedicated by his son and successor, Caracalla, in 216.

During the first and second centuries A.D., Roman architects devised new ways of using their materials to make innovative and daring structures. Most

major buildings were constructed of brick and concrete, with marble or other expensive stone used only for columns or facings. The culmination of these developments was the Pantheon at Rome, built by Emperor Hadrian between 116 and 126. Its massive concrete dome, 43 meters (142 feet) across, is larger even than the dome of St. Peter's in the Vatican. The interior is decorated with stucco and marble veneer, completely masking the structural materials behind. Similarly daring in engineering terms and equally opulent in their fittings were the great bath complexes built at Rome by Caracalla (emperor 211–217) and Diocletian (emperor 284–305).

The prosperity of the Roman Empire created a great demand for artworks from wealthy individuals and municipal patrons. There were statues—often copies of Greek originals—to fill niches and adorn pedestals. Roman artists were also experts in relief sculpture, especially on public monuments and sarcophagi. The finest reliefs date to the period between the reign of Augustus and the death of Marcus Aurelius (A.D. 180). They were boldly executed, making full use of naturalism, skilled composition of the various elements, and depth of carving.

Perhaps even more famous than Roman sculpture are Roman mosaics. Many of the finest surviving examples came from North Africa. Mosaic was used to portray mythological scenes, landscapes, buildings, and people. In addition to mosaics for the floors, wealthy Romans also had the walls of their houses decorated with paintings, again with a wide choice of subjects. Special mention must also be made of glassware, in which Roman products surpassed anything made in Europe until the Renaissance.

We call all this Roman art, but it is important to recognize that not all the artists, architects, and craftspeople responsible for these works were Romans. This is especially true in the provinces, where local workshops would have absorbed new fashions and innovations alongside existing practices and techniques. Yet there is a certain homogeneity of style throughout the empire, as well as regional diversity. Poor people—most of the population—may have known little and cared even less about what was happening in distant provinces, but the elite were living in an imperial milieu, aware of new models and ideas, and it was the elite who commissioned the artworks and set the trends.

THE MILITARY ESTABLISHMENT

The Romans sought to rule their empire with the support of the local aristocracies. These wealthy men were encouraged to think of themselves as part of the Roman system; they responded by taking on magistracies and endowing their cities with public utilities such as libraries and water supplies and monuments to civic pride. The backbone of Roman rule, however, was the Roman army. This was at one and the same time an instrument of conquest, a machine for guarding the frontiers, and a force for stamping out rebellion or internal unrest. The key element was the 30 or so legions, units of 5,000 highly trained, well-equipped infantrymen. They were supported by an equivalent number of smaller units, the so-called auxiliaries. While the legions were drawn from Roman citizens, the auxiliaries were recruited from among the subject peoples of the empire and sometimes formed specialized units (for example, Batavian cavalry, Syrian archers, and Tigris River boatmen).

In archaeological terms, the impact of the Roman army is most vividly seen in forts and frontiers. Roman forts originated from the marching camps, which were part of standard Roman field procedure. When operating in enemy territory, Roman forces would build a temporary camp each night for protection against a surprise attack. This usually consisted of a bank and ditch, strengthened by wooden stakes, that enclosed a rectangular area with rounded corners (the so-called “playing-card” shape) in which the soldiers erected their tents. Traces of these temporary camps survive in several regions, notably northern Britain, where archaeologists have sought to date and use them as a basis for reconstructing particular military offensives.

When Augustus stabilized the frontiers, he also reduced the size of the army to 28 legions, plus an equivalent number of auxiliaries, resulting in a total fighting force of 300,000 men. Most of these were posted on or close to the frontiers, in permanent camps. The defenses were made of earth and timber in the early days, but by the second century A.D. stone forts were the norm. They followed the plan of the temporary camps, although within the playing-card enclosure the buildings that housed the soldiers and their stores were made of timber or stone. Rectangular barrack blocks were divided into ten rooms (*contubernia*), each holding eight men, with larger quarters for an officer and his household at one end. Thus, each barrack block held around eighty men, the normal size of a Roman “century,” and the officer was known as a *centurion.* Cohorts of auxiliary troops were made up of five or ten centuries; legions, of sixty centuries. Even when a fort has not been

excavated, the regularity of Roman military planning usually makes it possible to deduce the size of the unit stationed there simply by measuring the ground plan.

Alongside barrack blocks there were all the other buildings we would expect to find in a military compound, plus one or two that were perhaps less usual. At the center of the fort was the headquarters building (*praetorium*), with a room for the standards ("eagles" in the case of a legion) and the strongroom (sometimes below ground) that held the soldiers' pay. Next to the *praetorium* was the *principia*, the residence of the commanding officer, who, unlike the ordinary soldiers, was allowed to marry and live there with his family. Workshops, granaries (with raised floors to avoid the damp), a hospital block, and stables (larger in the case of a cavalry unit) were also regular elements, the whole being laid out on a rigid orthogonal street plan. A less-obvious inclusion was that of a bath block, containing hot and cold rooms and a plunge pool; this was often to be found outside the fortified perimeter but was no doubt a welcome feature to soldiers returning from drill or duty.

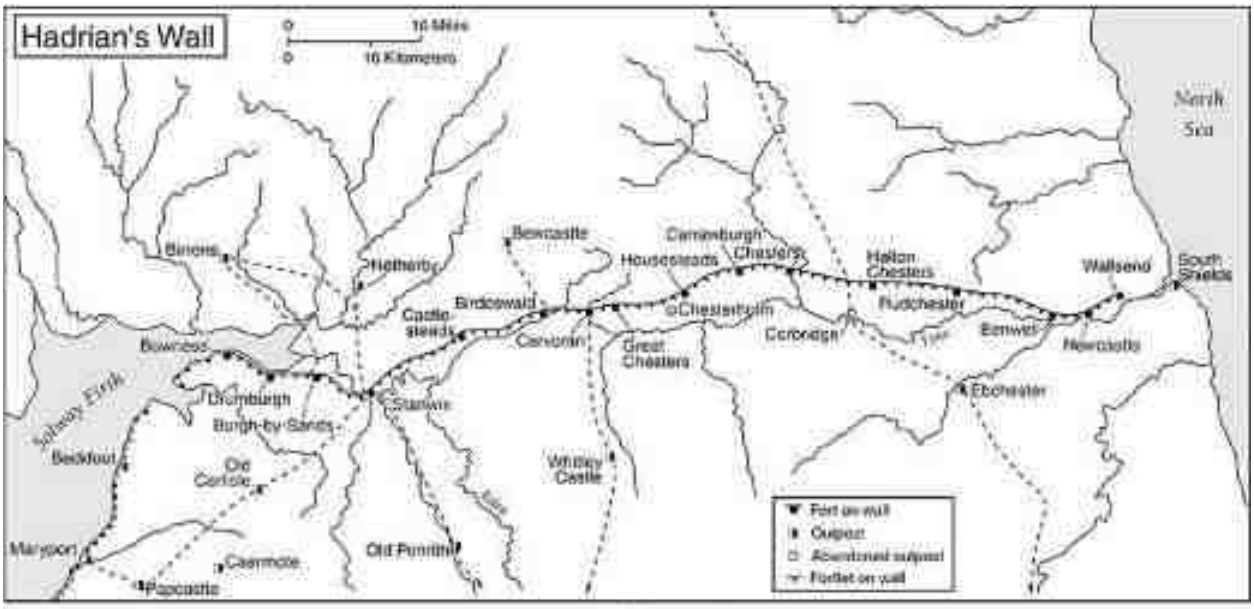
Imperial Frontiers

Aside from occasional foreign campaigns, the army spent much of its time guarding and patrolling the frontiers. These, like the forts, underwent a transformation during the first and second centuries A.D., becoming less fluid. The frontiers of the Roman Empire can be divided into three categories. River frontiers, notably the Rhine, Danube, and Euphrates, provided a continuous natural marker or barrier. It was sufficient to place forts at fords or bridging points and watchtowers along the banks to warn of any unauthorized incursion. Deserts provided relatively secure frontiers, notably those of Syria, Arabia, and North Africa. There the Romans built networks of forts and roads and occasionally went so far as to construct a physical barrier, such as the 60-kilometer (37-mile) length of stone wall and ditch across the Oued Djedi in eastern Algeria, though seasonal movements by nomads were still permitted.

Frontiers unprotected by either desert or river gave Roman military planners the greatest cause for concern, and it was in these regions that the concept of a continuous frontier defense reached its fullest expression. The two key sectors were northern Britain and the awkward terrain between the

upper reaches of the Rhine and Danube in modern Germany. The Emperor Hadrian (A.D. 117–138) built a continuous timber palisade in Germany, which was later in part rebuilt in stone. But the real strength of the frontier lay in the closely spaced network of watchtowers and forts behind it. In northern Britain the frontier work (known as *Hadrian's Wall*) was built largely of stone from the outset, and those stretches that were not at first constructed of stone became so a few decades later. This was an enormous undertaking: a solid wall up to 3 meters (10 feet) wide at the base and originally some 3.7 meters (12 feet) high, stretching for 117 kilometers (73 statute miles) from coast to coast (see Figure 11.4). Again, forts, fortlets, and watchtowers were an integral part of the scheme, for it was in the forts that the soldiers who patrolled the wall actually lived. Hadrian's Wall also shows something of the rigidity of Roman military planning, which we have already encountered in the standardized layouts of the forts themselves. Fortlets (known as milecastles) were placed at every mile along Hadrian's Wall, with a pair of watchtowers (known as *turrets*) evenly spaced between.

FIGURE 11.4 (a) Map of Hadrian's Wall, on the northern frontier of Roman Britain. (b) The Roman fort at Housesteads; the wall itself can be seen continuing along the crest in the distance. The wall itself ran 117 kilometers (73 miles) from the mouth of the River Tyne in the east to the Cumbrian coast in the west. Along its length were milecastles (fortlets) at every mile with turrets (watchtowers) between. Larger forts such as Housesteads, which held units of 500 (or, in one case, 1,000) men, were located either on the wall itself or a few kilometers to its rear. This elaborate frontier defense was built on the orders of Emperor Hadrian in the 120s A.D. Commission Air/Alamy Stock Photo.



(a)

(b)

Archaeologists and historians have long debated whether Hadrian's Wall was an effective military barrier. Evidence of rebuilding, which some have interpreted as repairs after hostile attacks, has been regarded by others as

merely routine refurbishment. Whatever its military effectiveness, however, it was clearly a powerful symbol of Roman military might. The biographer of Hadrian remarks that the emperor built the wall to separate the Romans from the barbarians. In the same way, the Chinese emperors built the Great Wall to separate China from the barbarous steppe peoples to the north. In both cases, in addition to any military function, the physical barriers served in the eyes of their builders to reinforce the conceptual divide between civilized and noncivilized. They were part of the ideology of empire.

ARTERIES OF EMPIRE: ROADS AND SEA-LANES

Roman Highways

Along each of the Roman frontiers ran a strategic military road, enabling troops to be rushed to any threatened sector in the shortest possible time. Roads also linked the frontiers and provinces to the heart of the imperial administration in Italy and formed an essential part of the communications network through which the empire was governed.

Roman roads have remained one of the Romans' most famous achievements. They lie beneath many modern roads and can often be detected where a highway runs for miles in a straight line. As conquerors, the Romans did not need to pay great heed to existing property boundaries, and in any event the roads were initially a strategic military device, overriding local interests. It was only later, as more and more local tracks were paved to link together the main arterial routes, that the Roman road system became an intricate, all-embracing network. The first Roman roads were built in Italy and carried the names of the leading politicians responsible for their construction, for example, Via Appia after Appius Claudius (312 B.C.) and Via Flaminia after Gaius Flaminius (220 B.C.). Their primary aim was to facilitate rapid troop movements from Rome to the boundaries of Roman territory. They also served the official postal service, with relay stations holding fresh horses in readiness at regular intervals. This system was first established by Emperor Augustus as part of his imperial reform, and it allowed messengers to travel up to 241 kilometers (150 miles) a day.

All Roman roads had dry, all-weather surfaces. The actual techniques of construction varied somewhat from region to region. In the eastern provinces,

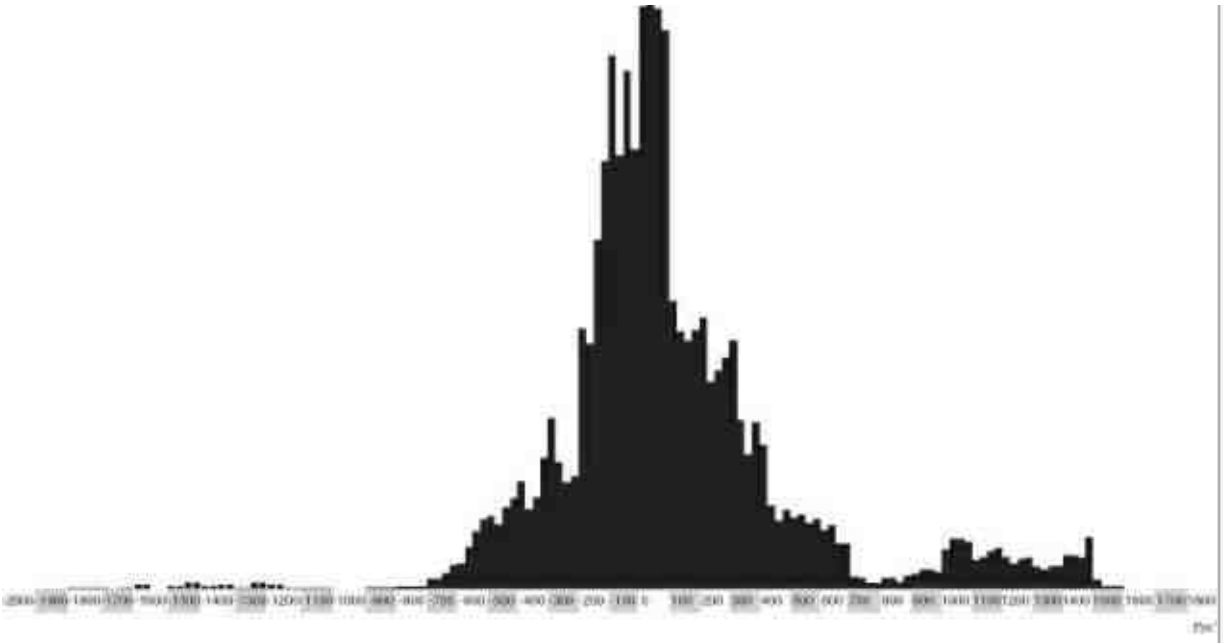
gravel surfaces were the norm, held in place by curbstones and drained by gullies. Italy and the western provinces boasted of more elaborate roads, surfaced with carefully fitted paving stones. Along with the roads themselves came the need for bridges. Small spans would be bridged by stone arches; long widths, by timber superstructures supported on stone pillars. The engineers applied the same technical skill to the construction of aqueducts and large vaulted halls. In the latter case, as in much of their architecture, the invention of a kind of concrete had a revolutionary impact, enabling grander and more daring structures to be built than the Greeks or Etruscans would ever have attempted.

Roman Seaways

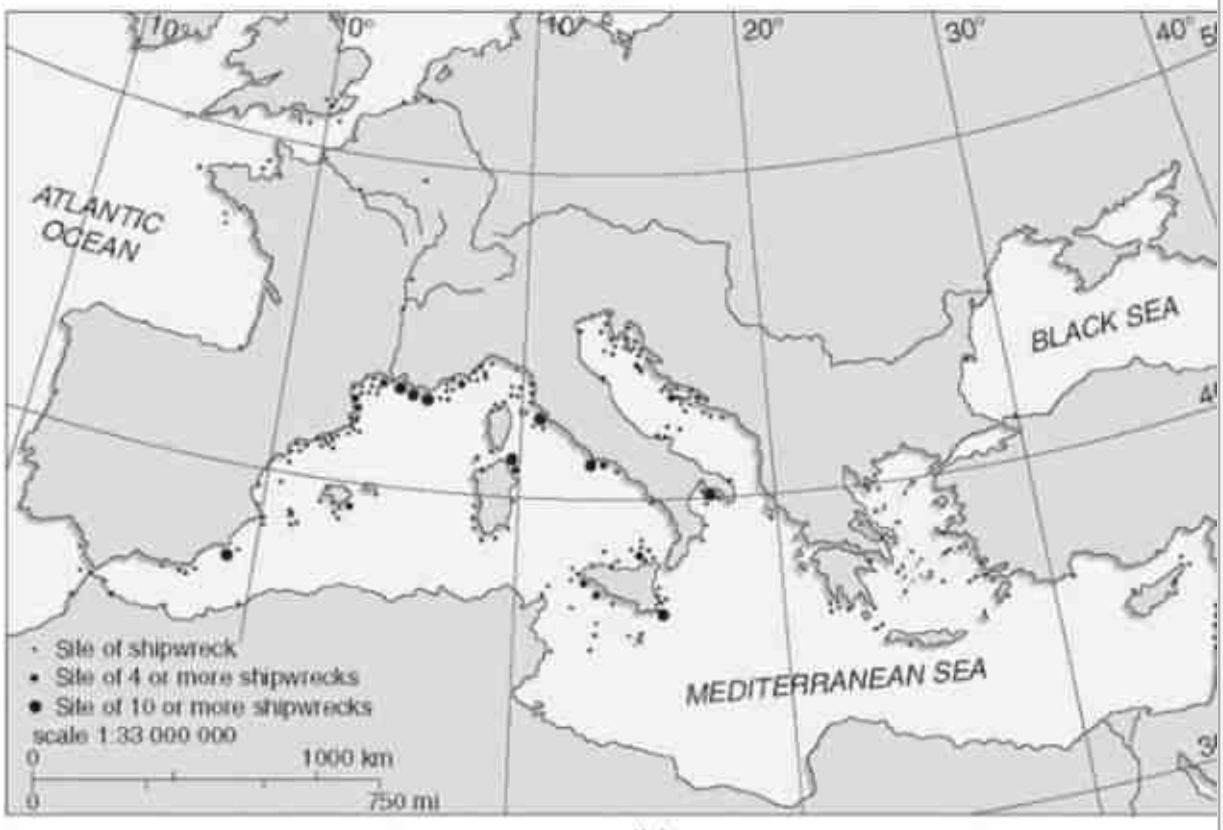
Roman concrete had one further advantage: It would set under water, making it suitable for artificial harbor works. As a Mediterranean empire, sea traffic was particularly important to the Roman world. Much of the trade was shipborne, and most of the major cities were near the sea or on the banks of navigable rivers, where they could be supplied by water transport. An official price list of A.D. 301 makes clear that it was as cheap to ship grain from Spain to Syria as to cart it 120 kilometers (75 miles) inland. The population of Rome, the capital, was heavily dependent on seaborne supplies of grain, brought mainly from Egypt and distributed free in a monthly dole to Roman citizens. Yet Rome itself was too far upriver to be reached by large ocean-going vessels, and it initially relied heavily on the river port of Ostia, downstream from Rome close to the Tiber mouth. In the first century A.D. this was supplemented by a massive new complex 4 kilometers on the coast to the north, known simply as Portus, “the port” (Figure 11.5c). Massive artificial breakwaters created a huge outer basin, linked to the Tiber by a canal. A few decades later a more sheltered but entirely artificial hexagonal inland basin was added, linked by canal to the sea and to the river, and fringed by enormous warehouses. Artificial harbors were also built at several other cities around the shores of the Mediterranean, notably Caesarea in modern Israel and Lepcis Magna in North Africa. All too often, however, the engineers found themselves fighting a fruitless battle against the forces of nature, and many Roman harbors, including those of Portus and Lepcis, gradually became blocked by silt.

Many Roman harbors were equipped with lighthouses to guide vessels into port. The idea of a tower with a beacon on top may well be old—examples from the sixth century B.C. are known on the Greek island of Thasos—but the immediate inspiration for the Romans was the massive Pharos lighthouse at Alexandria, which was considered one of the Seven Wonders of the Ancient World. Useful though they were, lighthouses had negligible success in reducing the risks of sea travel and could not guard against storms or piracy. Shipwrecks were the inevitable outcome, but however tragic these were to merchants and voyagers, they have provided vital information for archaeologists. By studying the vessels themselves, so far as they are preserved, we can learn how Roman ships were built. By studying the cargoes, we can discover what they were carrying and even reconstruct the course of the voyage. And by studying the incidence of shipwrecks in space and time, we can chart the relative importance of sea traffic in the Mediterranean, noting a peak around the first centuries B.C. and A.D. and a steady decline thereafter. This provides a direct measure of the changing fortunes of the Roman mercantile economy (Figure 11.5a and b).

FIGURE 11.5 (a) Graph and (b) map of the numbers and locations of Roman shipwrecks in the Mediterranean, fifteenth century B.C. to fifteenth century A.D. The rise and fall in the number of Mediterranean shipwrecks is a good indication of the health of the Roman economy. Oxford Roman Shipwrecks Database. (c) Reconstruction view of the harbor at Portus, the port of Rome from the first century A.D. The outer harbor with its long, curved harbor moles was built by the emperor Claudius (A.D. 41–54) but proved to be too exposed to storms; the hexagonal inner harbor was added by the emperor Trajan in A.D. 110–117. Goods offloaded at Portus were transferred to smaller boats and shipped via canals giving access to the River Tiber and thence to Rome. Major harbors such as Portus were provided with lighthouses to aid navigation. British School at Rome: https://britishschoolatrome.wordpress.com/2018/04/20/early-rome-and-the-environment-from-ancient-myths-of-the-tiber-to-modern-city-sinkholes/



(a)


10°
0°
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20°
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ATLANTIC OCEAN
BLACK SEA
MEDITERRANEAN SEA
Site of shipwreck
Site of 4 or more shipwrecks
Site of 10 or more shipwrecks
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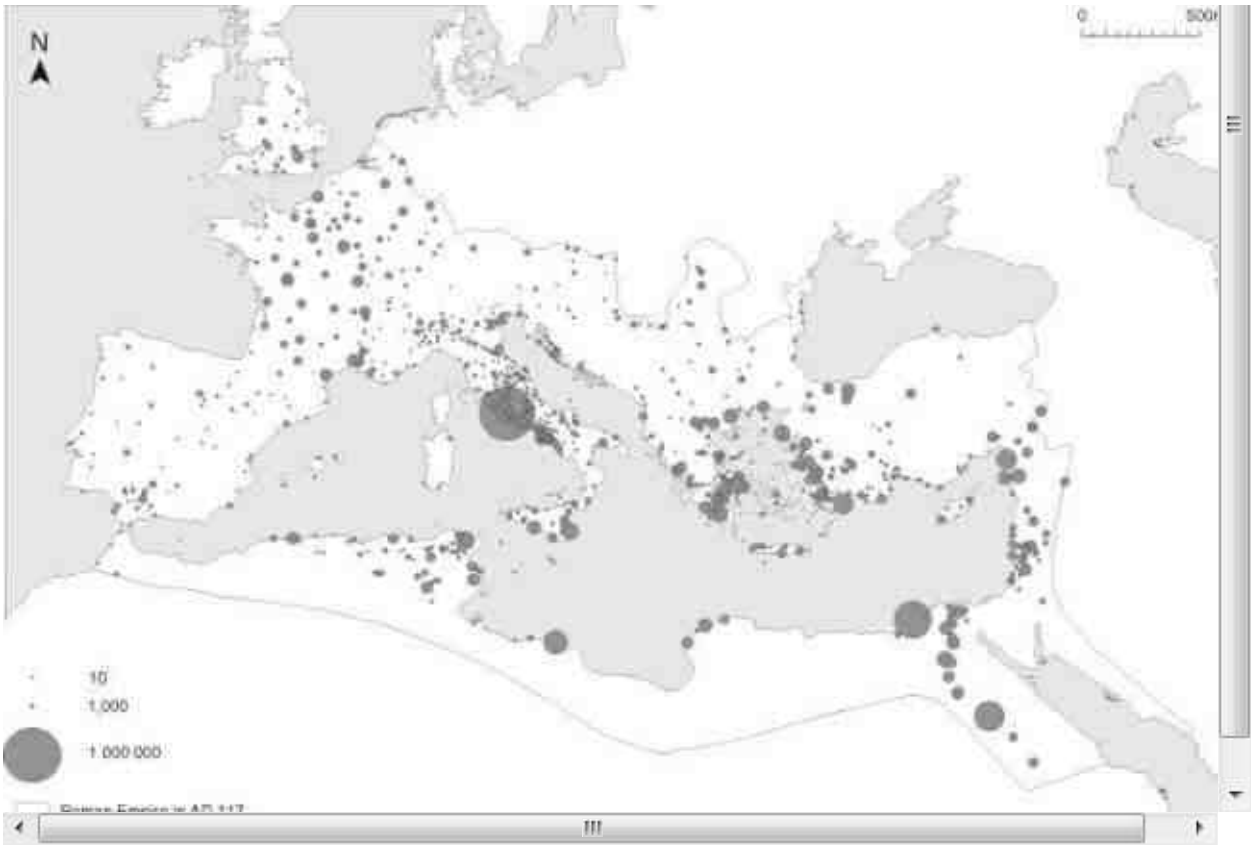
1000 km
0
750 mi

(b)

CITIES

Roads, ships, and aqueducts all converged on the cities, which were the focal points of the Roman Empire. The cities, of course, were dependent on their rural hinterland—the Roman economy remained very much agrarian in nature. But the cities assumed the greatest prominence in the affairs of the empire, and it is they that have yielded the most vivid archaeological evidence in the form of monuments, artifacts, and housing (see Figure 11.6).

FIGURE 11.6 Cities of the Roman Empire, showing their estimated population sizes. Largest of all was Rome itself, which may have been the first city in the Western world with almost a million inhabitants.



Roman cities varied greatly in size (Figure 11.6). At one end were the leading cities of the empire, with populations in excess of 100,000—Antioch, Ephesus, Carthage (refounded by Augustus as a Roman city), Alexandria (with over 400,000), and above all Rome itself. During its heyday in the first and second centuries A.D., Rome was a thriving metropolis of probably close to a million people. Unlike many Roman cities, it was not planned around a regular grid of streets but had grown up haphazardly over the centuries. Though most of the ancient city has been built over, many of the major monuments survive to this day as ruins. Archaeological excavations, contemporary documents, and fragments of a marble plan of C. A.D. 200 enable us to fill in further details. From these we learn that most of Rome's inhabitants lived in cramped tenement blocks several stories high. They were not always soundly built and occasionally collapsed; they also became death traps in a fire. Yet in the fourth century A.D. records show that Rome had 46,000 tenement blocks and fewer than 2,000 private houses. The latter were the preserve of the wealthy and might, in extreme cases, include leafy gardens and parks. The wealthiest citizen of all was, of course, the emperor, who lived in a splendid residence on the Palatine Hill. He could look down

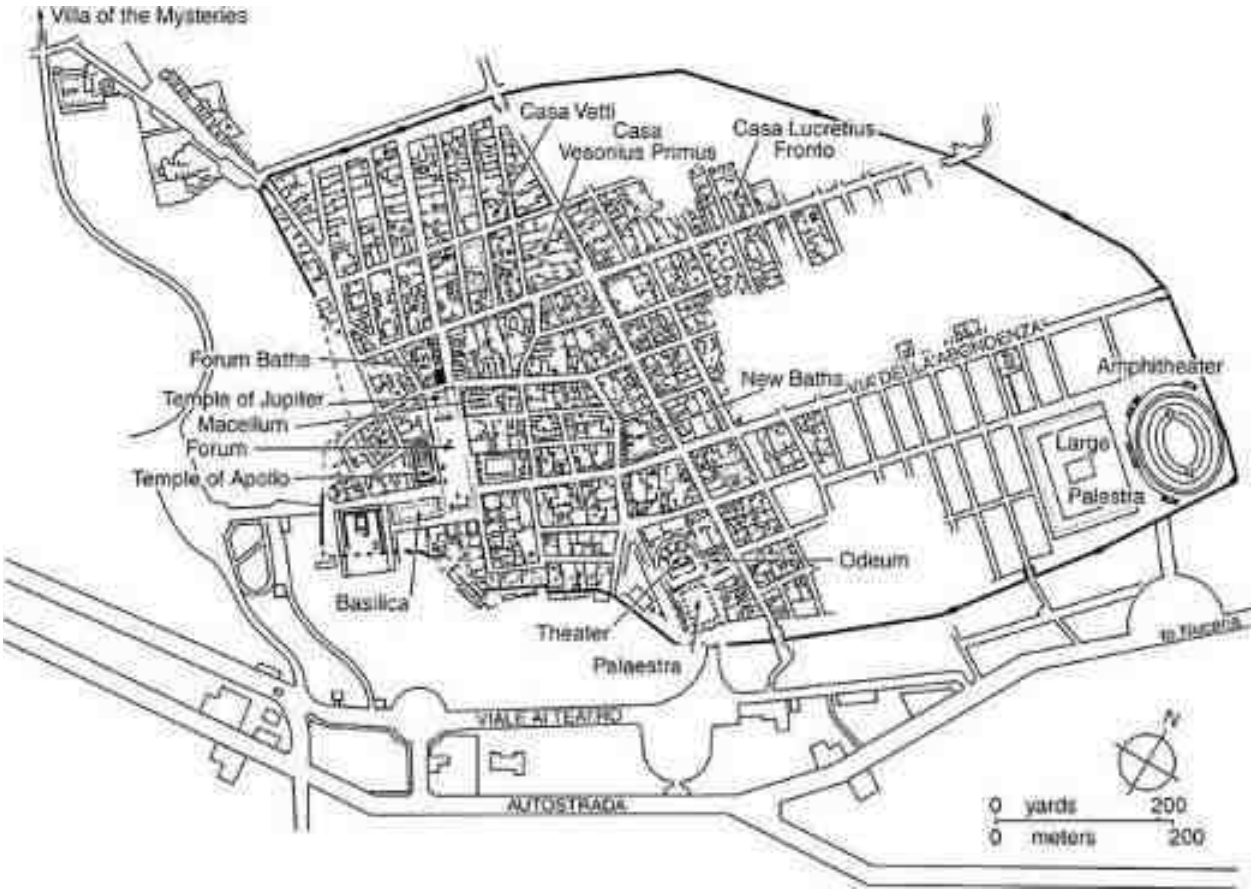
on the south to the Circus Maximus, the main racetrack and athletics ground, and on the north to the Forum. The Forum was the heart of Roman civic life. First laid out as a public square in the seventh century B.C., it was a showpiece for Roman power and magnificence, with colonnaded temples and halls and massive triumphal arches erected to commemorate imperial victories. Only a handful of these arches have survived, but they include some of the most familiar monuments of ancient Rome (Figure 11.7).

FIGURE 11.7 The Arch of Septimius Severus, dedicated A.D. 203 in the Forum in Rome in honor of his victories over the Parthians. Chris Scarre.

At the other end of the scale were the small cities, some little more than villages by modern standards, with a few thousand residents. Each city had its public buildings, but their scale and magnificence very much depended on the generosity of local patrons. A rich citizen might give money to repair a temple, pave a marketplace, improve a water supply, or even build a theater —not necessarily because of altruism but as a way of promoting his own political ambitions. The result in either case was a rash of building in cities throughout the empire during the first two centuries A.D., though lessening in the third century as the empire experienced political and military problems.

Pompeii, in the shadow of Vesuvius, not far from modern Naples, is one of the best-preserved and best-known Roman cities. Vesuvius erupted in A.D. 79, engulfing Pompeii in dense ash and lava, and the abandoned city remained deeply buried until archaeologists began working there in the eighteenth century. Now much of the city has been unearthed once again. No single city can be taken as representative of Roman city life as a whole, but Pompeii comes nearest to that role (Figure 11.8).

FIGURE 11.8 Plan of Pompeii, a Roman city preserved by ash fall from the eruption of Vesuvius in A.D. 79.



Like many Roman cities, Pompeii was laid out on an orthogonal plan, with streets crossing each other roughly at right angles. The plan was not perfectly square, and the southwest corner was on a different axis (part of an earlier settlement), but this does not detract from the general intention. The streets were paved with stone slabs, flanked on either side by raised sidewalks. The crisscross pattern of the streets divided the buildings of the city into rectangular or trapezoidal blocks—known to the Romans as *insulae*—which were often modified substantially in the course of their occupation. An example is the Insula of the Menander, so called after a painting of Menander, a third-century Athenian dramatist, in the garden colonnade of the principal house. The *insula* was planned in the third century B.C. when the city was extended to take in that area. It was divided into a number of separate properties, all perhaps belonging to a single owner, who may have lived in the House of the Menander on the north side of the *insula.* In its early days the Insula of the Menander was an aristocratic neighborhood. By the end of the third century B.C., however, if not before, it was completely built up;

the density of occupation increased during the late first century B.C., when an upper story was added to many of the buildings.

The last years of the *insula* are a commentary on the changing values of Roman imperial society. At the one end of the scale, the wealthy owners of the House of the Menander decided to extend their holdings, buying an adjacent property on the east side of the block and building a magnificent banquet hall on the site. At the other end, shops and taverns were opened on the street frontages; the principal houses stood behind them, arranged around open courts, with only modest doorways opening onto the outside world. The wealthy wanted security and seclusion. Yet it is strange to note how the entrance to the House of the Menander was thus next door to a stairway that gave access to a first-floor brothel. From its origins as an aristocratic neighborhood, the Insula of the Menander had become a thriving if less salubrious mix of private and commercial activities (Figure 11.9).

FIGURE 11.9 The garden courtyard of the House of the Menander, one of the largest and most luxurious elite Roman residences at Pompeii. Chris Scarre.

In addition to shops and houses, Pompeii possessed the amenities of a prosperous Roman city, including a forum area, originally the city's market but later converted into a setting for public buildings. A temple of Jupiter stood at one end, a temple of Apollo to the west, and a temple and colonnade dedicated to Augustus to the east, along with a covered market that provided space for the stall-holders. At the southwest end of the forum was a basilica, a covered hall where lawsuits were heard and public business transacted. One of the buildings to the south may have been the city prison; another, the city treasury. Other buildings provided for the entertainment of the citizens. A theater had been built in the second century B.C. It was rebuilt and remodeled by two wealthy patrons in the reign of Augustus. Other patrons had built a second, smaller theater and the large amphitheater for gladiatorial games in the first century B.C. The latter, a smaller but older version of the famous Colosseum in Rome, was used to stage the kind of bloodthirsty games for which the Romans were notorious: gladiatorial contests (nearby Capua was the leading school for gladiators); artificial fights or hunts in which wild

beasts were slaughtered; even executions of condemned criminals, who were sometimes forced to fight to the death to entertain the populace. At one event blood flowed in the aisles as well as in the arena. Among the spectators at a gladiatorial show in A.D. 59 were people from the neighboring town of Nuceria. Nucerians and Pompeians soon progressed from shouting abuse at each other to throwing stones and drawing swords. Many died in the ensuing riot, and Emperor Nero banned gladiatorial games in Pompeii for ten years (see Box 11.1).

Box 11.1 Sites The Colosseum

Most Roman cities in Italy and the western provinces had an amphitheater, where games were held at various times throughout the year. The largest was the Colosseum, begun by Emperor Vespasian (A.D. 69–79) and completed by his son and successor, Titus, in A.D. 80. It stood at the very heart of Rome, and it was capable of seating up to 50,000 spectators (Figure 11.10). The oval structure was constructed of concrete, and it was faced and reinforced with blocks of travertine, a local stone. The seats rose in four sloping tiers around the central arena. The front rows were reserved for senators and magistrates; women and slaves were restricted to the highest tier at the back. The emperor had his own special, marble box. Below the wooden floor of the arena was a maze of passages and chambers, some of them for holding the wild animals that took part in the games. There were rope-operated lifts to raise the animals to the level of the arena. The Colosseum is a masterpiece of Roman engineering. It is also a monument to the violent tastes of Roman society. When Emperor Titus inaugurated the Colosseum in A.D. 80, the games lasted hundred days, and no fewer than 9,000 animals were slaughtered. Gladiators armed with nets and tridents or shields and helmets also took part and sometimes became great popular heroes. Roman writers describe mock sea battles in specially flooded arenas and mock hunts with forests of trees in tubs of earth. These were elaborate shows, very popular with the common people. Educated men like the philosopher Seneca were not so amused.

FIGURE 11.10A Colosseum, cut-away diagram.

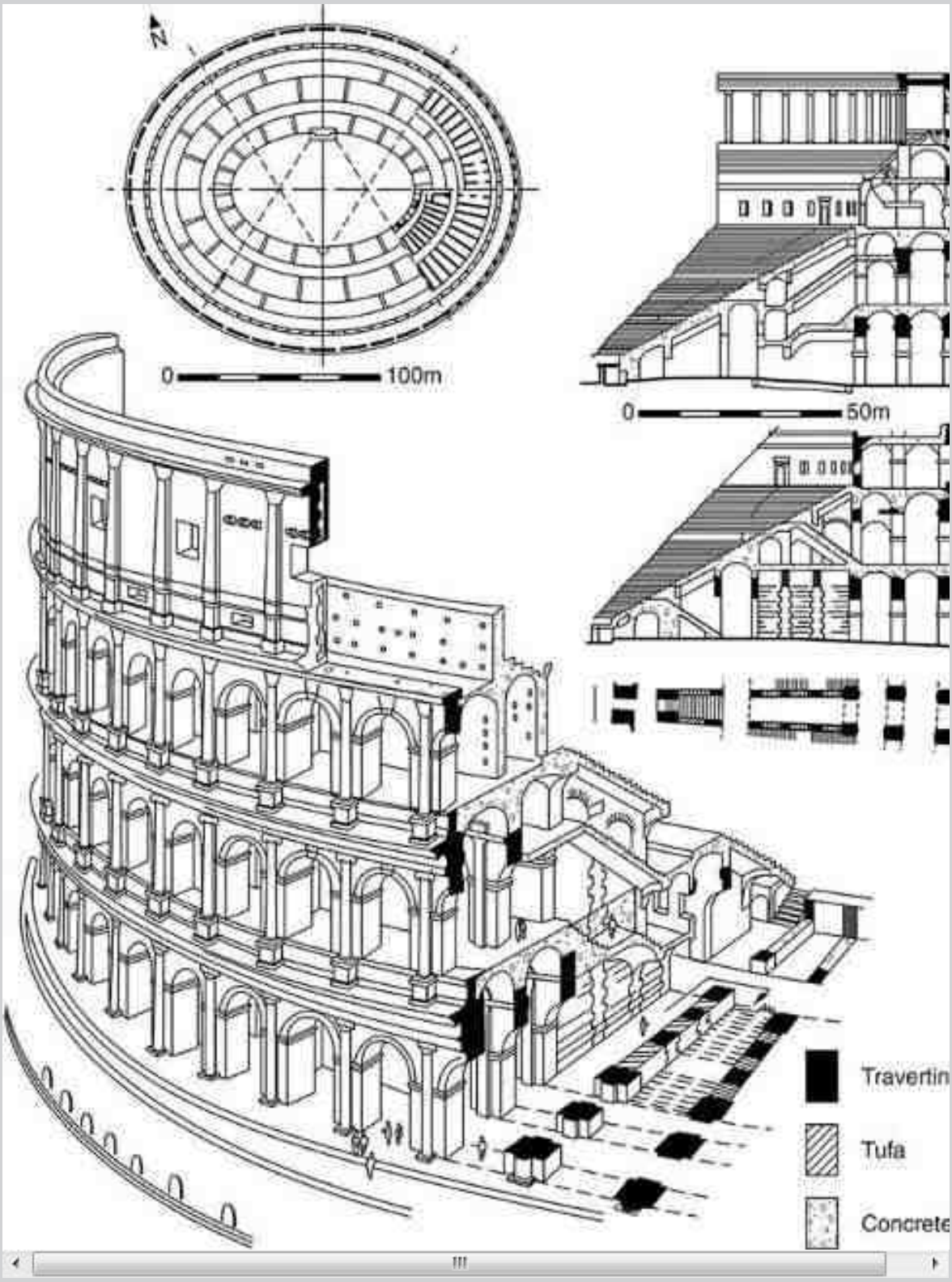


FIGURE 11.10B The Hunt: relief depicting gladiators fighting wild animals in a Roman amphitheater. DEA/G. Dagli Orti/De Agostini/Getty Images.

FIGURE 11.10C The center of Rome in the early fourth century A.D., showing the Colosseum (left), with the Baths of Trajan (lower left) and the Temple of the Divine Claudius (upper left), and the Roman Forum (right). Lautaro/Alamy Stock Photo.

In the morning men are thrown to the lions and the bears, at noon they are thrown to the spectators. The spectators call for the slayer to be thrown to those who in turn will slay him, and they detain the victor for another butchering. The outcome for the combatants is death. . . . “But one of them was a highway robber, he killed a man! . . . Kill him! Lash him! Burn him!” And when the show stops for intermission, “Let’s have men killed meanwhile! Let’s not have nothing going on!”

After a day at the games, male Pompeians could have sought relaxation in baths, taverns, or less-reputable places of entertainment. They would have had a choice of three public baths and a number of wine bars or taverns, many of which doubled as brothels. Roman law held that a woman who worked in a tavern or wine bar was little better than a prostitute. The main inn at Pompeii was directly opposite the city’s principal brothel. The same bill might itemize wine, food, fodder for the mule, and a girl. Respectable women stayed indoors and were accompanied by male relatives or attendants (if they could afford them) when they went out. Roman cities were not always

peaceful places. Even a small town like Pompeii had its riots, and larger cities — Alexandria in particular—were notorious for their street violence.

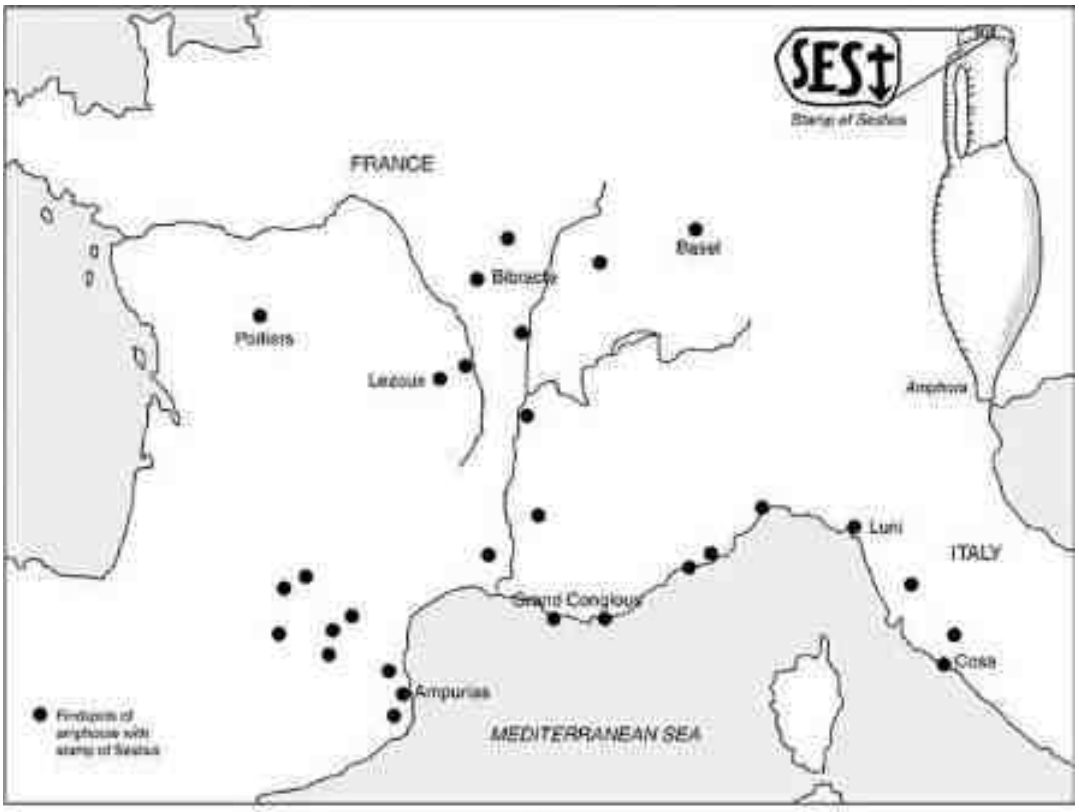
Commerce and Coinage

Like most Roman cities, Pompeii was a center of production and manufacture. There were at least thirteen workshops for metalworking, identified not only by casts, molds, and specialized metalworking tools but also by signs and inscriptions. Pompeii was a highly literate place. Textile production was also practiced: There were workshops for dyeing, fulling, and weaving, though not on a large scale. Most of the end products were probably intended purely for local consumption rather than export. The same is true of the bakeries, with tall millstones of coarse volcanic stone turned by donkey power to produce flour. However, Pompeii did export a much sought-after, fine-quality fish sauce known as *garum.*

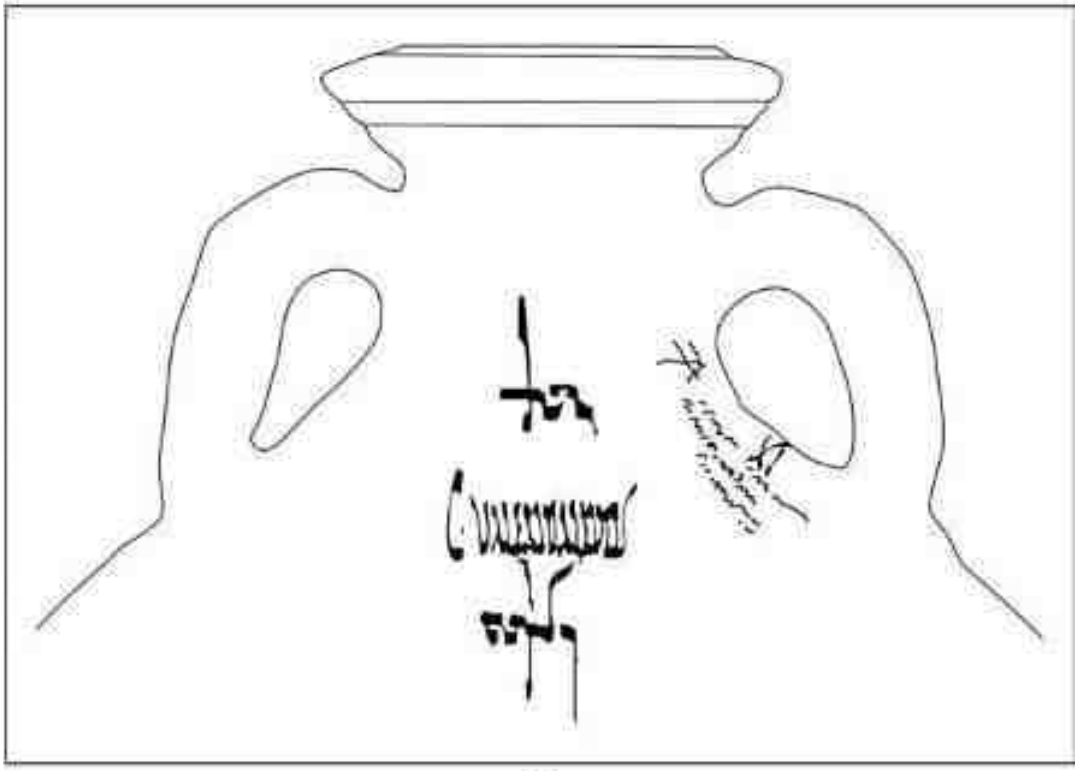
Pompeii was typical of many Roman towns in producing goods mainly for local consumption. Yet commerce did flourish in the Roman world, especially by sea. Some of the clearest evidence is provided by finds of the pottery containers or amphorae used to carry wine and olive oil and even *garum.* Enormous rubbish heaps of discarded amphorae accumulated behind the riverfront at Rome, where boats tied up and unloaded. Many of them had once contained Spanish or North African olive oil, and some had been stamped with the name of the potter and marked in ink with the name of the shipper, the year, the export authorities, and the weight of the amphora and its contents. In some cases, archaeologists can use the distribution of stamped amphorae to reconstruct the pattern of trade from a particular center. A good example of this are the so-called Sestius amphorae from France and the western Mediterranean. Gaius Sestius was a prosperous wine producer who owned vineyards near Cosa in northern Italy. He made his own amphorae, stamped with his name, on his estates. The pattern of finds shows that Sestius was exporting wine to barbarian Gaul (northern France) long before it was conquered by the Romans (see Figure 11.11).

FIGURE 11.11 (a) Map and stamp of Sestius amphorae. (b) Amphora label from Spain. Amphorae, large pottery vessels, were the standard containers for transport of a whole range of produce

in the Roman world, including wine, olive oil, and a fermented fish sauce known as garum. Many amphorae were locally manufactured and stamped with the name of the estate owner. Hence, the mapping of archaeological finds of amphorae bearing that particular stamp can reveal the extent of distribution of one estate's produce. Such is the case with the Sestius amphorae produced near Cosa in Italy for wine export in the first century B.C. Some Spanish amphorae were even labeled in ink with the weight of the amphora and its contents, the name of the shipper, and an official export mark.


SEST
Stamp of Sestius
FRANCE
Basel
Bibracte
Poitiers
Lezoux
Amphora
Luni
ITALY
Saint Cyprien
Ampurias
MEDITERRANEAN SEA

(a)



(b)

In two particular respects, Roman society seems more similar to our own than all earlier ancient civilizations: One was the pursuit of literature and the widespread use of writing; the other was the use of coinage. In the current age of plastic credit cards and online banking, it is becoming easier to imagine a world without coinage. For the Romans, however, with their far-flung empire, coinage was a great facilitator of commerce and finance. Previously, barter had been the main method of buying and selling. Values might be thought of in terms of weights of precious metals like gold and silver. The invention of coinage in Lydia during the seventh century B.C. did not at first change anything very much. The first coins were gold or silver, precious items in themselves, and were not very useful for everyday marketplace transactions. It was rather like carrying a sheaf of $1,000 bills. The big change came when bronze coins began to be used alongside gold and silver, giving rise to a trimetallic (three metal) currency system. This began in the third century B.C., both in Rome and in the as-yet-unconquered cities of the eastern Mediterranean. The principal Roman coin was the *denarius* (plural *denarii*), a silver coin originally weighing 4.5 grams (0.16 ounces). The main bronze coin was the *as* (plural *asses*), a heavier piece that weighed around 55 grams (2 ounces) but was worth only one-sixteenth of a *denarius.* At the other end of the scale was the gold *aureus*, worth 25 *denarii.*

This system of coinage meant that it was possible to go to the marketplace, buy some bread and fish with a silver *denarius*, and receive change in the form of bronze *asses.* Higher-value commodities such as property or land could be purchased with *aurei* (see Figure 11.12). The state or local municipality issued the coins and guaranteed their quality. In the imperial period, one face (the obverse) depicted the head of the reigning emperor, with his name and titles in abbreviated form. On the opposite face (the reverse), there might be a special motto, such as *Libertas restituta* (“Liberty restored”), a propaganda statement commemorating Emperor Vespasian’s victory in the civil war of A.D. 69. This, together with the imperial titles, allows the coin to be dated to a specific year. Coins are an invaluable tool for dating Roman sites.

FIGURE 11.12 Hoard of 126 Roman gold coins (aurei) found at Didcot in southern England. They had been buried for safe-keeping in

a pottery vessel, soon after A.D. 160, and would have represented a fortune, equivalent to over ten years' salary for a Roman soldier. Such coins were not intended for everyday market transactions but were a means of storing life savings or capital. The Trustees of the British Museum.

Roman coins also tell us about the state of the Roman economy. In times of crisis or economic difficulty, the emperors devalued the coinage, either by reducing the weight of the coin or by mixing the silver or gold with the less-valuable bronze. During the first and second centuries A.D., when the empire was at the height of its power and prosperity, the coins declined very gradually in weight and quality. In the troubled times of the third century, the coins deteriorated rapidly, although quality improved again when the empire was put on a sounder footing by Diocletian (A.D. 284–305) and Constantine (A.D. 306–337).

Much of the silver for the Roman coinage came from lead mines in Spain, and the scale of production was so great that it had a measurable impact on the environment. Analysis of Greenland ice cores has shown that Northern Hemisphere atmospheric lead pollution peaked during the Roman period, reaching levels not seen again until the Industrial Revolution of the eighteenth and nineteenth centuries.

Literacy and Writing

Writing was vital to Roman society: the inscriptions on temples and public buildings; the rich literary output of letter writers, poets, and historians, which give us such a vivid glimpse into the thoughts and feelings of Romans themselves; and the fragments of bureaucratic records, which the Romans used to organize their lives and their empire. Although we cannot be sure how many Romans could read and write, the shop signs and electoral graffiti on the walls of Pompeii show that writing was not the mysterious preserve of an educated few, as it had been in early Egypt and Mesopotamia, but was a more widely accepted part of everyday life.

The key works of Roman literature survive almost exclusively in the form of copies made by medieval monks. For Roman writing in everyday use we must look to the snippets on amphorae or walls or to the rather rare remains of actual letters and administrative documents. In the eastern provinces, the main writing material was papyrus (the Egyptian marsh plant from which we get the word *paper*). In the west, parchment and vellum (the hides of cattle, sheep, and goats) or wafer-thin slivers of wood were used instead. These last were so thin they could be folded, and an address might be written on the outer face. A large collection of wooden tablets was found at the Vindolanda Fort near Hadrian's Wall in northern Britain. Papyrus documents (including an early fragment of St. John's Gospel, which may date to the second century A.D.) have survived in the desert sands of Egypt and Syria. These exceptional discoveries make very apparent to us the enormous quantity of Roman writings that have not survived the ravages of time (see Box 11.2).

Box 11.2 Voices *The Vindolanda Tablets*

In 1973, in a modern drainage ditch just outside the fort of Vindolanda on Hadrian's Wall, two thin slivers of wood were found with traces of writing in ink still dimly visible. Chance circumstances of preservation had allowed the survival of Roman writing tablets almost 2,000 years old. In the twenty years that followed that initial discovery, British archaeologist Robin Birley recovered literally hundreds of wooden writing tablets from this same waterlogged deposit. They date from around A.D. 100 and cover a whole range of subjects, including military reports and personal letters. The ink writing can be read only with the aid of infra-red photography, and it needs a specialist to decipher the spidery handwriting, but as Birley himself has written, "The tablets can provide answers to questions that before we never dared to ask." One of the most evocative is a letter to Sulpicia Lepidina, wife of Flavius Cerialis, the camp commandant at Vindolanda, from her friend Claudia Severa, wife of Aelius Brocchus, the commander of a neighboring fort:

FIGURE 11.13 The Lepidina letter: Vindolanda tablet LVII. Vindolanda Trust.

Claudia Severa to her Lepidina, greetings. I send you a warm invitation to come to us on September 11th, for my birthday celebrations, to make my day more enjoyable by your presence. Give my greetings to your Cerialis. My Aelius

> greets you and your sons. I will expect you sister. Farewell, sister, my dearest soul, as I hope to prosper, and greetings.
>
> (Birley 1994, 28) (Figure 11.12)

Most classical Roman literary texts were written on scrolls consisting of papyrus, parchment, or vellum sheets, but it was during the Roman period that a new format, the *codex*, first appeared. In this the sheets were bound together in a single volume to form the multi-page book with which we are all familiar today. The *codex* format was especially favored for early Christian texts and spread through the Roman Empire as Christianity became widely established in the fourth century A.D.

THE END OF THE ANCIENT WORLD

This chapter has covered several aspects of ancient Rome: the growth of the empire; roads, forts, and frontiers; commerce, coinage, and city life; engineering and literacy. In recent years, archaeologists have also studied the rural landscape, using field survey techniques to plot the location of individual farmsteads and villas. The latter were a regular feature of the Roman landscape, the center of a rural estate that might be worked by dependent laborers or slaves. Some Roman villas were simple farmhouses. Others were palatial country residences, decorated with frescoes and mosaics and equipped with luxurious gardens and steam baths. Drainage, a water supply, and underfloor heating were standard items in these grandiose dwellings and were often found even in relatively modest houses (though not those of rural laborers or of the urban proletariat). All this prosperity depended on secure frontiers—the famous *Pax Romana* (“Roman peace”)—and on economic prosperity. For the first two centuries A.D., this security and wealth endured, but during the third century the empire became embroiled in internal and external crises. There was civil war as rival emperors were proclaimed by the powerful frontier armies. Successful emperors were often killed by their own disgruntled troops. Groups of provinces tried to break away and become independent empires. At the same time, the frontiers themselves were breached by a whole range of foreign enemies, from Persians in the east to Goths and Germans in the north and west. Vital

reforms were instituted at the end of the third century and the beginning of the fourth century by the emperors Diocletian and Constantine. They improved the coinage, strengthened the armies, and restored a measure of peace and stability. But the nature of the empire was changing, and Constantine accelerated the process by making Christianity the state religion.

The Roman Empire never really collapsed; it merely transformed itself into something else. Around A.D. 400 it was divided officially into two halves, each ruled by a separate emperor. The eastern empire, with its capital at Constantinople (modern Istanbul in Turkey), survived for another thousand years as the Byzantine Empire (Byzantium being the original name of Constantinople). The western empire, by contrast, collapsed in the course of the fifth century and became a mosaic of independent kingdoms, controlled by Germanic leaders who became the first kings of medieval Europe.

Thus did the ancient world come to an end in the West. The last Roman emperor was pensioned off in A.D. 476, to spend the rest of his life in comfortable retirement on the Bay of Naples. But while Roman rule fragmented and vanished, many of the key features of Roman life persisted in Western civilization, even to the present day. The Roman language, Latin, is the origin not only of modern Italian but also of French, Spanish, and Romanian. Roman law is the basis of most Western legal systems. The stately colonnades of Roman architecture, reinterpreted through the Renaissance, decorate many public buildings in Europe and the Americas, including the White House and the Capitol at Washington, D.C.

Summary

The Roman Empire was one of the greatest empires of the ancient world, uniting Greece, Egypt, North Africa, and the Near East with the Celtic lands of Europe under a single system of government. The population of the empire as a whole was probably around 50 million, small by modern standards but enormous compared to the average Greek or Mesopotamian city-state. This polyglot, multiethnic empire was controlled and protected by the highly trained Roman army and the well-defined and carefully patrolled imperial frontiers. Within the frontiers, a network of roads and sea-lanes held the empire together, joining the cities to one another and to the centers of government. Trade—especially maritime trade—grew and prospered, but

most inhabitants of the empire were engaged in agricultural activities rather than manufacture or commerce. Cities, a key feature of Roman life, provide many of the best remains and monuments of the Roman period. The legacy also lives on more directly in language, in legal codes, and in the religion that the Romans first opposed, then later espoused as the official religion of the empire: Christianity.

Note

1. Eighty Roman miles equals 117 kilometers (73 twenty-first century [statute] miles).

PART V

Northeast Africa and Asia

Immediately after this harbor begins the country of Arabia, extending lengthwise far down the Erythraean Sea. It is inhabited by a variety of tribes speaking languages that differ, some to a certain extent, some totally. . . . They plunder any who stray from a course down the middle and fall among them, and they enslave any who are rescued by them from shipwreck.

The ship captain Hippalus, by plotting the location of the ports of trade and the configuration of the sea, was the first to discover the route over open water. . . .

Beyond this region, by now at the northernmost point, where the sea ends somewhere on the outer fringe, there is a very great inland city called Thina from which silk floss, yarn, and cloth are shipped. . . . It is not easy to get to Thina; for rarely do people come from it, and only a few. . . .[1]

THE ERYTHRAEAN SEA

The Roman Empire was an omnivorous consumer of exotic luxuries, many of them—like drugs, gems, silks, and spices—from India and lands beyond. By the time of Christ, East and West were joined by increasingly complex webs of economic interconnectedness, through caravan routes that linked China with Iran over the Silk Road of central Asia and India with the Red Sea and Egypt by routes across the Indian Ocean. These land and sea routes had developed over many centuries.

The gems and spices of the East commanded enormous prices in the markets of the eastern Mediterranean. Roman merchants had nothing to trade

that could equal the value of these products, so they paid for them in gold and silver. The result was a net flow of precious metal from the Mediterranean to India, which caused concern to the Roman government as early as the reign of Tiberius (A.D. 14–37). The Roman historian Tacitus states that in A.D. 22, Tiberius contemplated measures to control luxurious living among the rich; he wrote to the Senate, complaining of "the specially female extravagance by which, for the sake of jewels, our wealth is transported to alien or hostile countries." In the reign of Nero, the Elder Pliny, a Roman statesman and writer, estimated that the annual trade deficit between Rome and India totaled the enormous sum of 60 million *denarii* (the *denarius* was the Roman silver coin).

The growth of the Indian Ocean trade linked together a number of separate trade networks. One of these was the famous incense trade. Frankincense and myrrh are the aromatic resins of trees that grow only in restricted areas of southern Arabia and Somalia. Frankincense was extensively used in temples, especially in Egypt, during the last few centuries B.C. Myrrh was an important component in the embalming of Egyptian corpses. The growing demand for frankincense and myrrh led to the development of lucrative trade between the eastern Mediterranean and the so-called "incense states" of southern Arabia, such as Saba (Sheba) and Hadramaut. At the other end of the network were trade routes bringing materials like tortoiseshell from Malaysia to southern India and Sri Lanka.

Even in Sumerian times, merchant ships coasted along age-old inshore routes, sailing from port to port in the Persian Gulf, along the southern shores of Arabia, into the Persian Gulf, and down to the west coast of India. The coasting routes of the Indian Ocean were like desert caravan tracks to those who plied them, as predictable and unchanging as the seasons of the year, whatever the political conditions ashore. With their lateen sails, short masts, and huge yards that could lie close to the wind, an Arabian dhow (sailing ship) leaving the Red Sea would sail on the same tack against the northeast monsoon for days along the desolate shores of southern Arabia. Once well to windward, the skipper would head offshore and ride the northeast monsoon to Indian shores, the Indus, the Malabar Coast, and even Sri Lanka at the southern tip of India. Then, sometime late in the first millennium B.C. Indian skippers mastered the secrets of the monsoon winds. Throughout the summer months, from June to September, these winds blow steadily across the Indian

Ocean from the southwest. In November they reverse their direction and until March blow from the northeast.

Knowledge of the monsoon winds passed from father to son, from ship owner to apprentice. Both Arabians and Indians kept their knowledge to themselves, as mariners usually do. Thus, the monsoon cycle remained a closely held secret until an Indian ship was wrecked and its captain brought to Alexandria. With his help, a Greek adventurer, Eudoxus of Cyzicus, made two journeys from the Red Sea to India around 115 B.C. It was either on this expedition or soon afterward that a Greek named Hippalus worked out a strategy for much faster, direct voyaging. Instead of following the coast of Arabia, he rode in August the rough and boisterous southwest monsoon directly to India's Malabar Coast. The much gentler northeast monsoon of winter carried him home a few months later. Hippalus's strategy made it possible for large sailing vessels to make a circular voyage from the Red Sea to India and back within a year.

In about A.D. 70, an anonymous Egyptian-Greek captain compiled *The Periplus of the Erythraean Sea*, a set of sailing directions to the Indian Ocean (*Erythraean* means "red"). The *Periplus* is a much compressed work that has been described as a trade directory combined with a volume of the British *Admiralty Pilot.* Its unknown but well-traveled author describes ports and headlands, the inhabitants of coastal towns and villages, and the trade to be conducted at each landfall. The manual begins from the Egyptian ports of Myos Hormos and Berenice and first guides the traveler down the African coast as far as Zanzibar. We learn that Arabian traders sailed far south down the East African coast as far as Zanzibar to trade for "a great amount of ivory . . .; rhinoceros horn; best quality tortoise shell; a little nautilus shell" (Casson, 1989, p. 61). More important by far, however, was the Indian Ocean trade. The *Periplus* describes the ports of southern Arabia—Muza, Eudaemon Arabia (Aden), and Qana—and then follows the route to the west coast of India. The main ports there are Barbarikon, near the mouth of the Indus River; Barygaza, near the mouth of the Narmada River; and Muziris and Nelykanda, in the south of the peninsula. These southern ports could be reached by sailing directly across the Indian Ocean, using the monsoon winds. It was there that the most exotic goods were to be found: locally produced pepper and cinnamon, diamonds and sapphires, as well as luxuries brought there for resale from lands to the east—Chinese silks and Malaysian tortoiseshell.

At the time of the *Periplus*, the Erythraean Sea still lay at the very boundaries of the Classical world, but the peoples living on its shores were now connected by an intricate web of land and ocean routes. Downwind sailing ships carried the ivory, rhinoceros horn (prized as an aphrodisiac), and tortoiseshell of Africa to distant lands. They transported incense and spices to the heart of the Mediterranean world and cotton cloth and fine silks to city bazaars. The domestication of the camel (see Chapter 12) and the Indian Ocean's monsoon winds linked the Mediterranean world, Asia, and tropical Africa in new and lasting economic relationships. They were among the catalysts that fashioned a new world economic system from the smaller, more regional trading networks of earlier times. Fleets of ships that carried Greek, Syrian, or Italian merchants set off each summer from the Red Sea ports, making the crossing to India and then waiting in Indian ports for the winter monsoon to begin before making the return voyage. The profits were enormous.

In archaeological terms the extent of the trade is manifest in the quantities of Roman gold and silver coins that have been found in southern India. Still more graphic was the excavation by British archaeologist Sir Mortimer Wheeler of an actual Roman trading colony on the Indian coast at Arikamedu near Pondicherry, on the southeastern side of the peninsula. Imported items show that it was already in contact with the West in the second century B.C., but around the time of Emperor Augustus (27 B.C.–A.D. 14) the local port was transformed by the establishment of the Roman merchant colony. The foreigners imported amphorae of wine, olive oil, and spicy fish sauce from the Mediterranean. They also used fashionable Italian tableware.

Roman maritime trade with India and the East flourished throughout the first and second centuries A.D. Soon Greek and Roman traders were not only exploring the coastal areas but penetrating inland as well. They visited the courts of Indian rulers, and these rulers in return sent gifts and embassies, which were received by Roman emperors including Augustus and Trajan. Merchants born in the Roman Empire came in touch with people from distant lands far to the east, with Buddhists and Hindus, who told stories of fabulous countries beyond the eastern ocean, such as the island of Chryse (Malaysia)—the golden, most eastern extremity of the inhabited world, lying under the rising sun itself—or of the very great inland city called *Thina* ("China"). There is even a record of Chinese merchants at Rome, and of a Roman embassy reaching the Han court in the mid-second century A.D.

The establishment of the Indian Ocean trade routes brought South and Southeast Asia, as well as southern China, into regular contact with the Western world. And this ever more elaborate web of interconnectedness affected the lives of individuals and states living thousands of miles apart. The unchanging cycles of the monsoon winds were the Silk Road of southern latitudes, one of the catalysts that, centuries later, ushered in the development of the world economic systems of today. The civilizations described in Chapters 12, 13 and 14 were part of the new world of the monsoon winds.

CHAPTER 12

Northeast Africa

Kush, Meroe, and Aksum

FIGURE 12.0 Nubian soldiers on the march in the tomb of Mesehti, a regional governor in Upper Egypt during the Middle Kingdom c. 2000 B.C. Equipped with bows and wearing red loincloths, these tomb figures illustrate the employment of Nubian soldiers in Egyptian armies. World History Archive/Alamy Stock Photo.

The aromatic smell of wood charcoal hangs heavily over the arid landscape, light clouds of wood smoke mantling the tall clay furnaces where the bellows snore. The only sound is the monotonous "chuff," "chuff" of the smiths' goatskin bellows, which continues day and night throughout the smelt. Steep piles of iron slag surround the furnaces, which are open to the prevailing winds so that the natural draft helps to keep the temperature high. Each furnace has its own team of workers, led by an experienced smith who watches the fire closely, adding charcoal from the heaps of charred acacia wood nearby. A smelt takes over seven hours of intense firing, with teams of bellowsmen rotating at twenty-minute intervals so that the fire is always red-hot. At last, the smith is satisfied. The bellows cease as he breaks open the mouth of the furnace and rakes out a glowing lump of slag about the size of a soccer ball. The sweating workers rest as he examines the cooling lump. They know that in a few hours their labors will start all over again as a new smelt begins.

CHAPTER OUTLINE

Nubia and the Middle Nile
"The Shadow of Egypt" (3500–2100 B.C.)
Kerma: The Lords of Kush (c. 1680–1528 B.C.)
King's Son of Kush (1528–1100 B.C.)
"The Shadow of Nubia" (1100–730 B.C.)
Nubian Pharaohs (730–663 B.C.)
Camels and Monsoons
Meroe (c. 300 B.C.–A.D. 300)
Aksum (A.D. 100–1100)

The iron smelters of Meroe—described above—lived in Nubia, a land far up the Nile River, at the very fringes of the Classical world.

> *When you have passed this portion of the river in the space of 40 days, you go aboard another boat and proceed by water for 12 days more, at the end of which time you reach a great city called Meroe, which is said to be the capital of the other Ethiopians.*
>
> (Herodotus, Book II, chapter 29—translated by Rawlinson 1859)

The Greek traveler Herodotus visited Egypt during the fifth century B.C. He never traveled above the First Cataract but was profoundly curious about Nubia, the arid country upstream of Egypt's southern frontier. He questioned the Egyptians about the mysterious land from which they obtained gold, ivory, and semiprecious stones.

To the Egyptians, Nubia (from the Nubian word *nob* for "commoner" or "slave"), "the Land of Kush" in southern Egypt and the Sudan, was the home of the Ethiopians: the "burnt faces." The Arabic word *Sudan* (from *Beled es Sudan*, "the country of the blacks") means much the same thing. The Egyptians had little respect for their Nubian neighbors. Government scribes labeled Nubia "miserable" or "abominable." As archaeologist William Adams remarks, "For millennia Egypt treated [Nubia] as a kind of private hunting preserve for human and animal game" (1977, p. 17). But archaeology and historical records show that Egypt and Nubia, while ethnically and linguistically distinct, were linked to each other by commercial, and sometimes political, ties for more than 3,000 years. For a short period,

between 730 and 663 B.C., Nubian kings actually ruled over the land of the pharaohs.

Few scholars except the most ardent Afrocentrists (see Chapter 4) now believe that Egyptian civilization developed from Nubian or Ethiopian roots. Although some complex polities developed in Nubia at the same time as they did in late Predynastic Egypt, they were soon eclipsed by a unified Egypt, which attacked and eclipsed them. This chapter describes the distinctive Nubian and Ethiopian kingdoms, which developed upstream quite independently and in partial response to developments downstream.

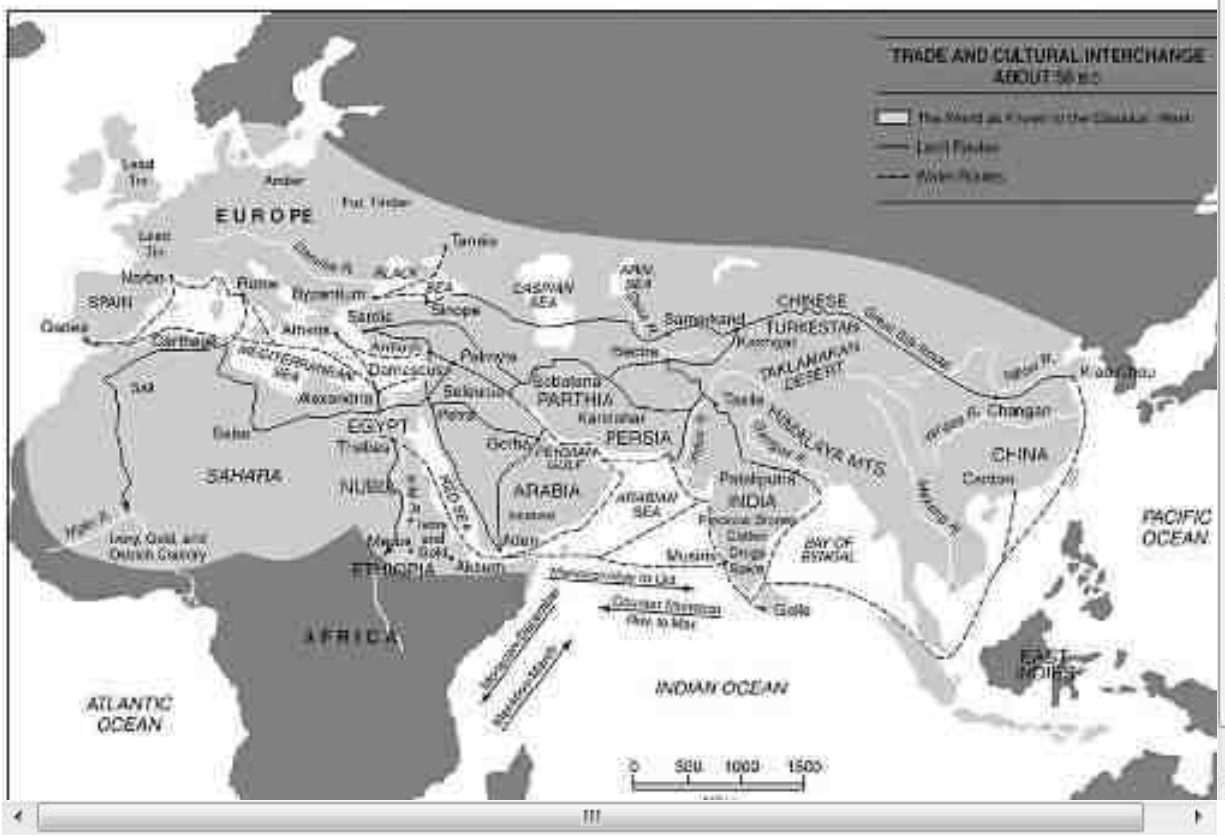
NUBIA AND THE MIDDLE NILE

Above the First Cataract at Aswan, the floodplain landscape of green fields and shimmering irrigation canals gives way to a harsh, rocky terrain, where the desert presses down to the river. Nubia was desolate and inhospitable to strangers, a land of arid ravines and rocky cliffs, where travel, even along the river, was never easy. The desert formed a natural barrier between Egypt and Nubia, but people on either side of the frontier were in regular contact from the earliest times. Ancient trade routes followed the river and led to mineral-rich outcrops deep in the desert. Most farming communities lay at the mouths of large wadis, where alluvial soils were thickest. The local people adopted many Egyptian customs, although there was not enough farmland to attract dense agricultural settlement or to support large cities.

Nubia straddled a long and narrow strip of sometimes fertile land that begins at the First Cataract and ends at the confluence of the Blue and White Nile near Khartoum, far to the south in the Sudan (Figure 12.1). The most fertile lands lie between the Third and Fourth Cataracts, the famous Dongola Reach, where today's Nile passes through featureless, sandstone landscape, flooding the surrounding lowlands each summer, just as it did in Egypt far downstream. Dongola was home to some of the earliest Nubian kingdoms. Before about 1200 B.C., there was more rainfall and wider flooding than there is today. As conditions became drier, so settlement contracted closer to the river. Far upstream, the Nile flows through semiarid grasslands of the Shendi Reach, where people grazed their herds of cattle for thousands of years. Shendi ends at the junction of the Blue and White Nile. The city of Meroe flourished in this reach at the time of Christ.

Come north to the residence at once! Hurry and bring with you this pygmy whom you brought from the land of the horizon-dwellers live, hale, and hearty, for the dances of the god, to gladden the heart . . .

FIGURE 12.1 Map of major trade routes across Asia and the Indian Ocean and sources of traded commodities.


TRADE AND CULTURAL INTERCHANGE
EUROPE
SPAIN
Rome
Byzantium
BLACK SEA
CASPIAN SEA
Samarkand
CHINESE TURKESTAN
TAKLAMAKAN DESERT
Athens
Antioch
Damascus
Palmyra
Seleucia
PARTHIA
Ctesiphon
PERSIA
EGYPT
Thebes
SAHARA
NUBIA
ARABIA
ARABIAN SEA
PERSIAN GULF
Aden
ETHIOPIA
Axum
INDIA
Patalipoutra
Calicut
BAY OF BENGAL
Ceylon
Malacca
KUNLUN MTS.
Changan
CHINA
PACIFIC OCEAN
AFRICA
INDIAN OCEAN
ATLANTIC OCEAN
Ivory, Gold, and Ostrich Country
Myrrh, Frankincense, Gold
Silk
Gems
Pearls
Spices
Cotton Textiles
Horses
Wool
Gold
Silver
Copper
Tin
Lead
Amber
Furs
Tin
Tin
Tin

were exchanging foodstuffs, ivory, and other exotic commodities along the river, among themselves, and with the Egyptians living below the First Cataract. Even before 3000 B.C., what William Adams calls "the shadow of Egypt" was falling across Nubia. Its raw materials were irresistible to a civilization where wealth went hand in hand with divine kingship.

The Old Kingdom pharaohs called Nubia *Ta-Sety*, "the land of the bow," a reference to the expert archers pitted against them. As the pharaohs' armies raided, so parties of Egyptian prospectors traveled far and wide through Nubia in search of minerals and semiprecious stones. Each party probably consisted of a few soldiers and one officer, a scribe and overseer, and a small number of expert miners, who knew the telltale signs of precious metals. Some Nubian diorite (a black rock) was used for the flagstones of Khufu's mortuary temple at the Pyramids of Giza (see Box 4.1). By the end of the Old Kingdom in 2134 B.C., Nubia had become part of the vast trade network that linked the pharaohs with the Levant and Mesopotamia, and with Arabia and the coasts of the Red Sea (see Box 12.1).

Box 12.1 Voices: *Egyptians in Nubia*

The Egyptian pharaohs depended heavily on Nubia for raw materials, especially gold and tropical products. In later centuries, they manned their armies with Nubian mercenaries, who were famous as bowmen. The Old Kingdom pharaohs raided Nubia and campaigned against rebellious tribes. They also established colonies at Buhen and some other locations. Their generals returned with plentiful prisoners and many head of cattle. The process was called "setting the fear of Horus [the pharaoh] among the southern foreign lands, to pacify [them]." Many campaigns were little more than slave raids, which brought back as many as several thousand captives and depopulated Lower Nubia. One fourth-dynasty graffito refers to as many as 17,000 Nubian prisoners of war. Once in Egypt, they were set to work on the land or on construction projects and enrolled in the military. Carefully organized prospecting expeditions brought back ebony and ivory, incense, myrrh, wild animal skins, and semiprecious stones.

Harkhuf, a sixth-dynasty Governor of Upper Egypt, led no fewer than four trading expeditions into Nubia after the Old Kingdom pharaohs

withdrew their colonies. His four trips southward took him not up the Nile, but along the so-called “Oasis Road.” The overland route led from Middle Egypt through a chain of four desert oases before regaining the Nile Valley at Toshke in Nubia. Harkhuf and his parties traveled on hundreds of donkeys, which enabled him to complete one successful journey in seven months and to travel on other occasions deep into Nubia to the kingdom of Yam, which, an inscription tells us, was probably located west in the Sahara, perhaps in Darfur or even in Chad. Donkey caravans traveled regularly between the Nile and the Dakhla Oasis to the west of the river. He exchanged gifts with the ruler of Yam and returned with “three hundred donkeys laden with incense, ebony . . . elephant tusks, throw sticks, and all sorts of good products.” His entourage also included a dancing pygmy. Harkhuf had sent a courier ahead to the court reporting on his doings.

The youthful pharaoh Pepi II wrote back in his own hand in great excitement:

When traveling on the Nile, men were to guard him lest he fell into the water. Twenty were to watch over him as he slept in camp lest he come to harm. “My majesty wishes to see this pygmy more than the gifts of the mine-land [Sinai] and of Punt [the Red Sea lands].”

The Old Kingdom pharaohs treated Nubia and its people with disdain and their lands as something to be exploited. The Middle Kingdom pharaohs pressed southward in their ambition to control the increasingly lucrative ivory and gold trade. The Nubians were formidable enemies. Many of their commanders and soldiers had long served bravely in the Egyptian army and had taken the measure of their enemy. The pharaoh Senusret III (1878–1841 B.C.) fortified Lower Nubia heavily with a row of fortresses that stretched from the First Cataract to Semna at the southern end of the strategic Second Cataract region. He described the Nubians as cowards, “not people he [Senusret] respects, they are wretches, craven-hearted.” The inscriptions tell of the women and children he enslaved, the cattle he slaughtered, the crops he burned. To encourage his successors, he set up a statue of himself “at this border which my majesty has made so that you maintain it and so that you fight for it.” The royal statue glowered at a row of imposing fortresses that stretched downstream as far as Elephantine at the very gates of Egypt itself. The most impressive of all was Buhen, at a critical strategic point

at the foot of the Second Cataract, a vast mud-brick construction that had much of the sophistication and impregnability of a European medieval castle.

During the New Kingdom, Nubia became an Egyptian colony, but not without some bloody engagements. A veteran soldier named Ahmose, son of Abana, accompanied the pharaoh Ahmose (no relation) on a Nubian campaign. He recalled:

> Now when his majesty had slain the nomads of Asia, he sailed south . . . to destroy the Nubian Bowmen. His majesty made great slaughter among them, and I brought spoil from there: two living men and three hands. Then I was rewarded with gold once again, and two female slaves were given to me. His majesty journeyed north, his heart rejoicing in valor and victory. He had conquered southerners and northerners.

In 1522 B.C., the pharaoh Tuthmosis I, an experienced soldier, campaigned vigorously far upstream, south of the Second Cataract. “His majesty became enraged like a leopard. His majesty shot, and his first arrow pierced the chest of that foe.” One can imagine the heat and choking dust, the swarms of lethal arrows shot at close range with deadly effect. Men clasp arrow shafts in their chests and choke to death. Others turn and run, only to be felled by showers of missiles in the back. Then the fierce war cries of the charioteers and the drumming of hooves as the pharaoh orders a charge into the churning Nubian regiments. As the Egyptians count their casualties and round up hundreds of prisoners, crows and vultures circle overhead. Tuthmosis sailed north laden with booty, with the rebel leader’s body pinned head downward to his bow. (Quotes in this box from Lichtheim 1973, 151ff; Lichtheim 1976, 212–213, 216.)

Thanks to excavations by Harvard archaeologist George Reisner in the early years of this century, we know that the Nubians made characteristic black-and-white incised bowls and red-surfaced pots. Such unimaginatively named “C-Group” vessels occur all the way from Lower Nubia, many miles into the desert on either bank of the Nile, and as far south as the Ethiopian highlands. The densest populations flourished along the Dongola Reach. Between about

2500 and 2000 B.C., a large town was already flourishing at Kerma, later covered by a later cemetery. Formidable palisades protected the growing settlement, as a powerful Kushite kingdom coalesced out of several smaller polities and came into being at the end of the Egyptian Old Kingdom. By early Middle Kingdom times (the centuries after 2000 B.C.), a centralized state had come into being. More than 4,000 ox skulls surrounded a royal grave of the time, drawn, so zooarchaeology tells us, from different herds throughout the territory controlled by the Kushites.

The power of such rulers may be why the Middle Kingdom pharaohs established a permanent Egyptian presence in Nubia by the simple expedient of fortifying the strategic Nile reaches below the Second Cataract. They built a series of forts, principal among them Buhen, to create a hardened southern boundary. The same bases guarded the junctions of key trade routes to ensure the safe passage of goods up and down the river. Further south, commerce was in the hands of powerful Nubian rulers, whose territory extended far upstream to Kerma and beyond. This was the fabled Land of Kush, so rich in gold and ivory that its fame spread throughout the Mediterranean world.

Kerma: The Lords of Kush (c. 1680–1528 B.C.)

The Kings of Kush owed their power and wealth to their strategic position astride a long stretch of navigable and fertile river valley. When the pharaohs were strong and political conditions in Egypt were stable, the rulers of Kush kept within their boundaries. But when pharaonic control weakened, the inhabitants of Egyptian garrisons switched allegiance to the locals, becoming full-time colonists, a process resulting in part from intermarriage and burgeoning kin ties with nearby Nubians. This occurred as the Nubians extended their influence downstream.

Kush's rulers lived at Kerma in the heart of the Dongola Reach, where a natural basin with fertile soils floods every year. By 1570 B.C., between 2,000 and 3,000 people lived in what had become a large town, or small city by ancient standards. The closely packed settlement had no formal layout. Narrow alleys twisted and turned between small dwellings. Most were one- or two-room mud-brick houses. One common design had two rooms on either side of an interior courtyard, with a small courtyard outside, where food was stored and cooked, cattle penned, and pottery fired in special pits.

Charles Bonnet of the University of Geneva has excavated at Kerma for more than ten years, uncovering not only much of the town but also a 61-meter-long (200-foot-long) palace with a throne room and other chambers. Another complex of buildings serviced the riverside harbor with warehouses. The entire town was fortified with elaborate defenses—wide, massive walls, protected with rectangular, projecting watchtowers, all surrounded with dry ditches to prevent undermining. The four gates, placed at the cardinal points, were flanked by defense walls. Although Kerma's defenses were inadequate against professional New Kingdom armies, they were highly sophisticated for the time (see Box 12.2).

Box 12.2 Sites *Kerma*

In its heyday around 1550 B.C., Kerma was a colorful and powerful kingdom, with a strong economy based on agriculture, cattle, and a growing gold trade with the north. The town covered about 26 hectares (65 acres), a striking indigenous metropolis. Its ruler controlled all of Lower and Upper Nubia. He lived in the fortified city core, protected by massive 30-foot, mud-brick walls with four gateways and projecting, rectangular towers. A huge mud-brick temple, the Western *deffufa*, rose high above the walls, its white pylons visible from miles away (Figure 12.2). Kerma's temple covered an area of 325 square meters (3,500 square feet), a large building even by Egyptian standards.

FIGURE 12.2 The principal temple or Western deffufa at Kerma in the Sudan, early second millennium B.C. Andrew McConnell/Getty Images.

Superficially, the Western Deffufa resembled an Egyptian temple, but the interior reflects very different religious beliefs. It also housed workshops for the production of prestige goods. Instead of entering at the front, a side entrance and a stairway lead to a small sacrificial chamber, where goats and sheep were offered on a circular marble altar. Another stairway climbs to the roof, where outdoor rituals, perhaps for the sun-god, were once performed. A 5-meter (16-foot), mud-brick wall surrounded the religious precincts, enclosing not only the Western deffufa but small shrines and living quarters for the priests. Perhaps 2,000 people lived within the larger fortifications, in the royal palace and the dwellings of the nobility.

Kerma's ruler originally held audience in a large circular hut with mud-brick walls that stood to a height of at least 10 meters (30 feet). A conical thatched roof covered the structure, later abandoned in favor of a rectangular mud-brick palace with an imposing audience hall where the ruler sat on a dais to conduct official business. A great deal of trading activity centered on this large complex, aligned with the main temple entrance, as if the ruler's public appearances were carefully orchestrated.

The palace had large storage chambers and an archive room, where archaeologists unearthed thousands of clay seal blanks, used to mark goods or to close messages.

Kerma was a sprawling city, a walled community surrounded by clusters of much smaller settlements. The central precincts housed a diverse population, not only the ruler and his family and court, but also officials, soldiers, and a hierarchy of priests, as well as a large population of commoners, most of whom lived outside the city walls. Its artisans were expert in gold and ivory and created some of the finest clay vessels ever made in Africa: red and black colored, and of eggshell thinness. The city's houses reflect a complex, wealthy society, with many two-room dwellings fronted by a courtyard and others with more complicated ground plans. Vast enclosures between the city and the river housed enormous numbers of animals stored for food. Excavators have even found the imprints of cattle hooves in the soil! Lines of small villages once flourished along now dry Nile channels in the hinterland around the capital. They grew grain for Kerma and stored it in special structures with raised wooden floors.

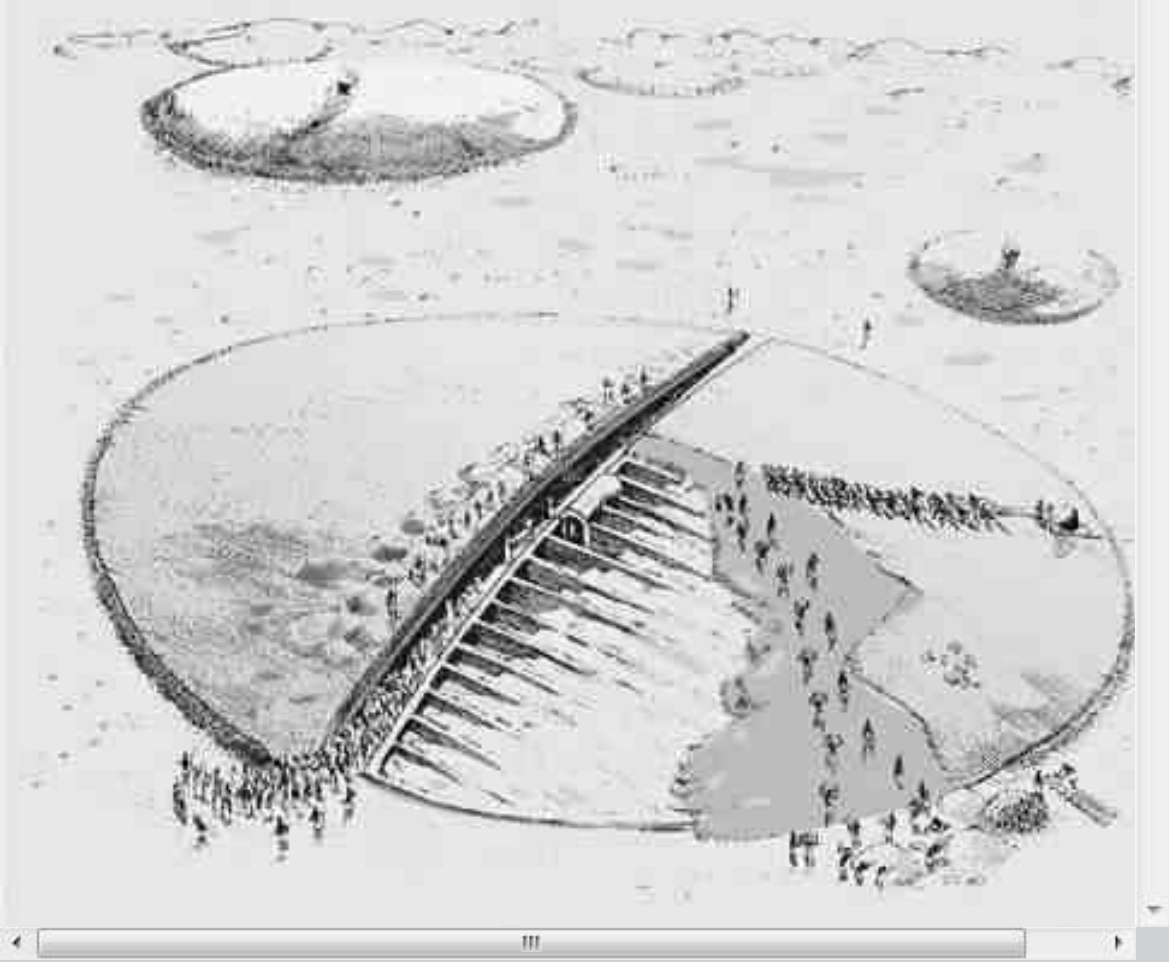
The vast Kerma cemetery about 3 kilometers (2 miles) east of the city provides a fascinating window into Nubian society of the day. More than 30,000 people lie there. Commoners were buried with few possessions. Wealthier members of society lay on well-made wooden beds, provided with a box of personal possessions such as bronze razors and stone vessels for eye pigment or ointment. They wore linen and leather garments, occasionally caps decorated with mica ornaments. Four exceptionally large royal burial mounds lie along the southern edge of the cemetery associated with mud-brick mortuary shrines. Averaging about 88 meters (290 feet) across, they once housed the royal corpse, laid out in all its finery on a magnificent bed. Lavish supplies of locally made inlaid furniture, weapons, and pottery accompanied each ruler. The mourners lined the area outside the burial chamber with statues and statuettes of Egyptian pharaohs and officials, booty taken in now long forgotten raids deep into Egypt. Statues of the nomarch Djefaihapi and his wife Sennuwy deposited in the last royal tumuli at Kerma came all the way from Assyut in Middle Egypt.

On the day of the funeral, large crowds gathered at the great burial mound, where narrow corridors led to the burial chamber. A long

procession of mourners walked to the tomb carrying offerings amidst great wailing and chanting. Trusted priests and officials closed the doors of the burial chamber. The ruler's attendants, his entire harem in their best finery, their children, and dozens of slaves filed into the earthen passageway and crowded tightly together close to the burial chamber. Excavator George Reisner (1923, pp. 123–124) tells the tale:

> The cries and all movements cease. The signal is given. The crowd of people assembled for the feast, now waiting ready, cast the earth from their baskets upon the still, but living victims on the floor and rush away for more. The frantic confusion and haste of the multitude is easy to imagine (Figure 12.3).

FIGURE 12.3 A royal burial mound at Kerma. The people are hastening to complete the mound after the interment. Brian Fagan.



Death came quickly to many of the victims, who pressed their hands over their faces or their heads between their elbows. “At that last moment we know from their attitudes in death that a rustle of fear passed between them and that in some cases there was a spasm of physical agony” (Reisner, 1923, p. 125). The passageway filled, the assembled crowd enjoyed a great feast of beef from the oxen slaughtered to accompany the dead lord.

In their heyday, the Kerma rulers enjoyed great wealth. They were interred under large burial mounds near the town, most of them about 91 meters (300 feet) across, each with an internal chamber. The three largest mounds had a remarkable internal structure of long, parallel mud-brick walls that ran across the tumulus. It is as if they were a framework for the mound itself. The important personage buried in the tomb was placed on a bed with his weapons and personal possessions. Dozens of sacrificial victims lay both in

the chamber and in a corridor that ran across the mound (see Figure 12.3). George Reisner estimated that as many as 400 people perished with one ruler, one of the largest numbers of sacrificial victims on record anywhere.

All this wealth came from trade connections with desert peoples and communities living much further upstream. The lords of Kush maintained regular trading connections with the Hyksos court in the faraway Delta, employing a small cadre of Egyptian officials to oversee the trade on their behalf. But Kush was an entirely African kingdom, created by local chiefs who seized the economic and political initiative when their more powerful neighbors faltered. They acquired many Egyptian artifacts and perhaps some of their religious beliefs and customs, but they presided over the earliest black African state.

King's Son of Kush (1528–1100 B.C.)

Around 1535 B.C., New Kingdom King Ahmose pounced on Nubia and refortified the river, apparently in the face of little resistance. This time, Egypt needed Nubia's wealth to support its nobility and to finance ambitious public works at home, as well as military campaigns in distant lands. As the era of Egyptian imperialism dawned, Ahmose's successors crushed the rulers of Kerma, occupied Kush, and extended Egyptian rule to the Fourth Cataract. Nubia became, to all intents and purposes, an Egyptian dependency. From trade monopolies organized from afar, the New Kingdom pharaohs turned to direct exploitation of their new possession. The Egyptian-appointed Viceroy of Kush, known as "The King's Son of Kush," was a powerful official, responsible for delivering a vast annual tribute to Thebes.

Considerable debate surrounds the nature of Egyptian imperialism in Nubia. As archaeologist Bruce Trigger, Egyptologist Paul Frandsen, and others have pointed out, the people of Nubia, including Kerma, were considered barbarians by their northern neighbors. The Old Kingdom pharaohs had garrisoned Nubia, but Egyptian culture made few inroads into local communities, perhaps a reaction to military occupation. However, when the inhabitants of the garrisons became colonists, they may well have become a conduit for the transmission of different aspects of Egyptian civilization. There was now more peaceful interaction and Egyptian technology came into widespread use. At the same time, many Nubians served as mercenaries in Egyptian armies, fighting against the alien Hyksos rulers of lower Egypt. By

the time the New Kingdom pharaohs descended on Nubia, much of the population was more amenable to integration into Egyptian social and economic systems. But the pharaohs were concerned with the security of their frontiers, with the need to eliminate the threat of a powerful Kerma state, so they colonized Nubia and made it part of Egypt.

Everyone agrees that Nubia effectively became a province of Egypt. The destruction of Kerma made strategic sense to the pharaohs, but why did they incorporate Nubia into Egypt, something their predecessors never did? Archaeologist Stuart Smith hypothesizes that the colonization and acculturation of Nubia made good sense to the New Kingdom Egyptians. Nubia's conquerors intensified agriculture and herding and increased food surpluses dramatically. These they reinvested in a local temple and estate system modeled on that in Egypt itself. Both Egyptian officials and settlers and co-opted local leaders ran this system, while the sons of the latter were held as hostages in Egypt and educated as Egyptian nobles. As the generations passed, the population became increasingly acculturated. The farmers and commoners became impoverished, just as they were downstream, while the Egyptian-born and Nubian elite enjoyed increasing wealth. The reinvestment of resources into the maintenance of the local economic system was very cost-effective, for it paid for most, if not all, of the infrastructure required to extract minerals and run the trade routes that carried Nubia's exotic goods to Egypt and the wider world. These were the goods that were vital to Egypt's foreign policy in Syria and the Levant and for the maintenance of its rulers and nobility. In other words, says Smith, New Kingdom Nubia became a self-supporting enterprise that was run to finance key state enterprises such as mineral exploitation and the trade in Africa's luxury goods. Under these circumstances, the pharaohs' imperial policy made very good sense.

Nubia changed from a country of village farmers and herders into something more closely resembling a vast plantation state, whose inhabitants worked for the benefit of absentee landlords and sometimes for Nubian officials who were indistinguishable from high Egyptian nobles. Kush was carefully organized to provide commodities at the cheapest possible price. *The Annals of Tuthmosis III* (c. 1480 B.C.) quotes figures for Nubian tribute that include 830 kilograms (1,830 pounds) of gold received over three years of his reign alone, gold with a value of well over 3 million dollars today.

“The Shadow of Nubia” (1100–730 B.C.)

The economic and political shock waves that rolled across the eastern Mediterranean in the thirteenth century B.C. overthrew the Hittites (Chapter 7) and also rippled up the Nile as far as distant Nubia. The Egyptians abandoned Kush to its own devices. Many Nubians still clung to Egyptian ways, forming a new elite that was to create its own distinctive civilization in the centuries ahead. Much of the wealth and military power that had been Egypt’s now remained in Nubia. As William Adams says, “For two thousand years the shadow of Egypt had lain on Nubia; at the end of the New Kingdom the shadow of Nubia was beginning to be visible in Egypt” (1977, p. 2227). The end of direct Egyptian rule left a political vacuum, but the tradition of divine monarchy and the cult of Amun survived. The flat-topped sacred mountain named Jebel Barkal stands close to the north bank of the Nile at the Fourth Cataract, near the town of Napata. Tuthmosis III and Ramesses II both chose this magnificent setting for a Temple of Amun. The great shrine built by Ramesses—brilliantly reconstructed with three-dimensional computer graphics by Timothy Kendall of the Boston Museum of Fine Arts—ranks among the finest examples of its kind (Figure 12.4). It was here that the traditions of kingship and ancient religious beliefs were kept alive. And, in due time, the cult of Amun became the ideological thread that sustained Nubian civilization for more than a thousand years.

FIGURE 12.4 The Jebel Barkal temple, Nubia, founded by Egyptian pharaoh Tuthmosis III in the fifteenth century B.C. but rebuilt and expanded by Ramesses II two centuries later, and by the Nubian king Piye of Kush in the eighth century B.C. John Warburton-Lee Photography/Alamy Stock Photo.

No one knows exactly how Nubian civilization arose with such dramatic suddenness. A common hypothesis is that the priests of Amun at Jebel Barkal kept alive the ancient traditions, at a time when multicultural traditions were emerging locally that blended Egyptian religious practice with Nubian mound burial and other rituals. In time, alliances formed between the priests and the local chiefs, the ancestors of men who were to rule a new kingdom of Kush and Egypt itself. It was a close connection between secular and spiritual power that sustained Nubian kings and validated their authority for many centuries. The wealth of this new state was based entirely on exports to Egypt. Those who controlled this trade along the Dongola Reach achieved great secular and economic power.

The first signs of new rulers come not from historical texts but from thirty-six royal tombs in a cemetery at El Kurru, downstream of Jebel Barkal. These are the burial places of the first kings and of the Nubian pharaohs who were to seize power in Egypt a century later. Every Nubian ruler was buried under a pyramid of unashamedly Egyptian design, much smaller than those of Giza

but proportionally much taller, with a 60- to 70-degree slope. These were clearly modeled on Egyptian Middle Kingdom pyramids as a new form of local royal burial, based on elite practice downstream. (Egyptian pharaohs abandoned pyramids at the end of the Old Kingdom.) The continuity of Nubian royal burial is remarkable; George Reisner and others have located five cemeteries, three of them near the Fourth Cataract and two others upstream at Meroe. A provisional but controversial list of rulers and reigns begins around 806 B.C. and ends in A.D. 320, 1,100 years later.

Nubian Pharaohs (730–663 B.C.)

The first Napatan king we know by name is Kashta, at least the sixth generation of the dynasty to which he belonged. We know little of him, only that he journeyed north to Thebes, where he was confirmed as ruler by the priests of Amun. He was received with relief by the Theban priests, for Nubian mercenaries kept them in power and threats from the north in check. Kashta's son Piye (Piankhi) spent the first twenty years of his reign in Nubia. Then came word from Thebes of a threat from a Delta king named Tefnakht, "the great chief of the Ma" (Libyans), who sought to control all Egypt. Piye dispatched an army to repel the intruders, then arrived himself to finish off the task. With brilliant diplomacy, he celebrated the festival of Opet, which honored Amun at the Temple of Luxor, establishing himself as the protector of the god and a man with a sacred mission. Then he marched north, took Hermopolis and Memphis, and overthrew the warring princes of the Delta. Having assumed the full titles of a pharaoh of Egypt he quietly returned to Napata, where he ruled for another decade without returning to Thebes.

A commemorative stela set up in the Jebel Barkal temple records how Piye marched down the river, "raging like a panther" and seizing towns "like a cloudburst." The forceful and thoroughly competent Piye was not only a skilled general but also an expert politician. We read how he sent his wives and female relatives to cozy up to the consorts of defeated lords and of his dismay at the condition of the horses in the royal stables at Hermopolis after the siege. "It is more grievous in my heart that my horses have suffered hunger than any evil deed that thou hast done in the prosecution of thy desire" (Victory Stela of Piye (Piankhi): translation by Breasted, 1906, p. 429) he complains to their vanquished owner. By all accounts, Piye was a

merciful conqueror, who allowed his rivals to keep their thrones once they had pledged allegiance to him.

Piye's successors, Shabaqo and Shebitqo, established the royal seat at Memphis, effectively founding the Twenty-Fifth Dynasty of Egyptian pharaohs. Now the tide had turned completely, for the servant had become the master, the conquered the conquerors. But there was a major difference: The Nubians, unlike earlier pharaohs, were not exploiters. All the Nubian pharaohs embarked on ambitious temple-building programs in honor of Amun. They patronized artists and artisans, had ancient papyri copied, and ordered long-forgotten rituals to be performed. Such was their piety that they restored temples all along the Nile and sponsored a revival of ancient styles, but with one difference: Their artists always recorded the kings' distinctive ethnic differences.

The Nubian dynasty ruled until 663 B.C., when King Taharqa fled ignominiously to Napata before the invading Assyrians. For three-quarters of a century, his successors tried to recover their throne. But in 591 B.C. an obscure pharaoh named Psamtik II (Psammetichus) routed the Kushite ruler Anlamani at Pnubs, a town on the site of Kerma near the Third Cataract. Psamtik's soldiers "waded in Kushite blood as if it were water." The Egyptian army marched to Napata unopposed and sacked its towns and temples. Aspelta fled to the safety of Meroe on the Shendi Reach, some 480 kilometers (300 miles) upstream. There Nubian civilization took on a new lease of life for a time. But Meroe's royalty always revered Napata and its shrines. For centuries the kings were crowned at the shrine of Amun and were buried within sight of Jebel Barkal.

CAMELS AND MONSOONS

Egyptian knowledge of the desert and the Indian Ocean region expanded dramatically with the domestication of the camel, and, later, with the discovery of the monsoon wind cycle of the Indian Ocean.

Egyptian rulers had long prized tropical products from Red Sea ports. Queen Hatshepsut ruled Egypt from 1498 to 1483 B.C., a strong-willed woman who effectively usurped the authority of the child-king Tuthmosis III. Hatshepsut was not known for her military prowess, but she was an ambitious trader. A famous relief on the wall of her mortuary temple commemorates a memorable expedition to the "Land of Punt," probably in northern Somalia,

Eritrea, or Djibouti. The queen's envoys crossed overland to the Red Sea, then sailed southward to exchange young incense trees, ivory, and semiprecious stones for Egyptian manufactures (see Figure 12.1).

No Egyptian ships ventured further than Socotra until several centuries after the Nubian kings had retreated upstream to Meroe. But in 25 B.C. the Greek geographer Strabo accompanied the Roman prefect of Egypt far up the Nile to the borders of Kush. Far from the Mediterranean, Strabo learned that "as many as one hundred and twenty vessels were sailing from [the Red Sea] to India, whereas formerly, under the Ptolemies, only a very few ventured to undertake the voyage and to carry on traffic in Indian merchandise" (Strabo, *Geography* II.5).

The downwind sailing ship and the monsoon winds linked Africa with India and Southeast Asia. The camel, the "ship of the desert," was the equivalent of the ocean-going sailing ship in arid lands. After 500 B.C., this beast revolutionized desert travel and the land-borne spice trade between southern Arabia and the eastern Mediterranean world. Camels are seemingly ungainly beasts, but they are ideal for crossing deserts. Their padded feet enable them to travel on soft sand, their bodies absorb heat efficiently, and they store fat in their humps. They conserve water through an efficient kidney system and can distribute immense amounts of liquid through the body tissues within forty-eight hours. Inevitably, camels became beasts of burden because they were perfectly adapted to travel in arid lands, provided they were properly ridden. The saddle turns the camel—in its various configurations—into a fighting vehicle, a racing steed, or a superb load carrier.

Camel breeding on a large scale began after the twelfth century B.C., when Semites from the north took control of the Arabian frankincense trade. The real revolution occurred between 500 and 100 B.C. with the appearance of the so-called "North Arabian saddle"—a rigid, arched seat, mounted over the camel's hump, that distributes the rider's weight evenly on the beast's back. A pack load can be slung on either side of the saddle. Even more important, a warrior could fight from camelback with sword or spear. The North Arabian saddle gave the hitherto despised camel-breeding nomads of the desert unprecedented military, political, and economic power. The camel-borne warrior mounted on a sturdy saddle made those who supplied desert transportation a political force to be reckoned with. The camel breeders thus

controlled the desert caravans, so much so that wheeled carts vanished from Southwest Asia for many centuries. The camel was simply more efficient.

By the third century B.C., desert nomads like the Beja of the northeastern Sudan, with their military saddles acquired from across the Red Sea, could threaten law and order in Egypt. They and their camels dominated the lucrative trade routes that linked the Red Sea with the Nile. Two centuries later, camels were commonplace far to the south, in Kush. By the time of Christ, the southern Red Sea became the crossroads between Asia and Africa and between India and the Mediterranean world.

The Nubian kings of Meroe were quick to adapt to changing economic times. Because of the camel, they ruled over a kingdom at a strategic economic crossroads. To the east, large camel caravans linked the Nile with Red Sea ports. More camel tracks stretched westward, deep into the Sahara, and southward, into tropical grasslands where ivory could be obtained. Then the camel was a load carrier rather than a weapon of war. The Saharan saddle was mounted on the beast's shoulders forward of the hump. The new design provided better control for long-distance riders, who could steer their steed with a stick or their toes. This was highly adaptive when transporting heavy loads of gold, ivory, and salt over hundreds of miles of extremely harsh landscape.

MEROE (C. 300 B.C.–A.D. 300)

Meroe lay on the outer fringes of the Mediterranean world, a remote and exotic land that was reputed to be awash in gold and ivory. In the north, the Nile was the life blood of Meroitic civilization, which at its height influenced a long strip of land about 1,125 kilometers (700 miles) along the river from near Dakka in Lower Nubia as far upstream as Sennar on the Blue Nile. In the south, the Indian Ocean monsoon allowed dry farming and extensive herding, supplemented by artificial ponds. Stories of Meroe's fabled wealth attracted King Cambyses of Persia, but his army perished of starvation in the desert before reaching the city. Alexander the Great sent a small expedition there in 331 B.C. In later centuries, Meroe's rulers maintained friendly relations with the Ptolemies of Egypt, who obtained from them not only gold but also war elephants. A fine bust of Emperor Augustus has come from Meroe, a war trophy from more unsettled times. The Roman writer Pliny tells us that a small party of Roman soldiers visited the city around A.D. 60 at the

command of Emperor Nero, who was contemplating a campaign against Meroe. They reported that "the grass in the vicinity of Meroe becomes of a greener and fresher color, and that there is some slight appearance of forests, as also traces of rhinoceros and elephant" (Pliny the Elder, *Natural History*, VI.35). The Romans were used to great, teeming cities like Rome and Alexandria and were unimpressed with the diminutive city of Meroe, though their hosts boasted unconvincingly that they maintained "250,000 armed men and 3,000 artisans."

For all the Romans' scorn, the kings and queens of Meroe administered a complex, exploitative economic enterprise for their own benefit, controlling by force trade routes to the outside world through a network of carefully policed routes. They portrayed themselves as the descendants of the great pharaoh Piye and his successors, preserving many of the institutions of Egyptian society but with a distinctive African slant. They perpetuated the worship of Egyptian gods and built temples and sepulchers that were derived from ancient architectural convention. Even Meroitic hieroglyphs were based on pharaonic models, although the scribes developed a cursive script to write their own tongue, a script as yet undeciphered.

Meroe lies on the east bank of the Nile, 200 kilometers (124 miles) downstream of Khartoum. Today, the ruins of the once-famous town lie in a barren, arid landscape of low hills and dry scrubland, where the sun beats mercilessly on those who dig within its precincts (Figure 12.5). It is hard to imagine that this same desert was well wooded during the first millennium B.C., enabling the inhabitants not only to raise cereal crops like millet and sorghum but also to maintain large herds on nearby semiarid grasslands. They would also fell large numbers of trees to make charcoal, an essential fuel for smelting the rich iron ores that lay in abundance nearby. "[Meroe] contains great forests," wrote the Greek geographer Strabo in 25 B.C. He said that the Meroites subsisted

> *on millet and barley, from which a drink is also prepared. . . . They live also upon the flesh and blood of animals, milk, and cheese. They reverence their kings as gods, who are for the most part shut up in their palaces.*
>
> (Strabo, *Geography*, VII.2)

FIGURE 12.5 General view of the royal pyramid cemeteries at Meroe in

FIGURE 12.5 General view of the royal pyramid cemeteries at Meroe in the Sudan, burial place of the kings and queens of the kingdom of Meroe from the third century B.C. to the fourth century A.D. Fotolia.

Today's arid wilderness results partly from chronic drought conditions but also from the handiwork of Meroe's inhabitants, who overgrazed the nearby grasslands and stripped the forests for firewood and charcoal burning.

A divine ruler headed the Meroitic state. Society was apparently matrilineal, for queens played an important role in Meroe's history. The prominence given to queens in Meroitic temple reliefs strongly suggests that royal property and the succession itself were transmitted through the female line. They appear in temple reliefs as massive, corpulent women, with elaborate jewelry and costumes, looming over their dying enemies in symbolic depictions of royal power.

We know little of Meroitic society or its people. Apparently, many Meroites had distinctive tribal scarifications on their faces, a mark of beauty characteristic of Africa rather than the Nile, while wealthier women made

extensive use of imported cosmetics. Most people lived at the subsistence level, for the trade in gold, ivory, elephants, and other commodities was to the benefit of only a tiny minority of the population. As time went on, an increasing number of commoners were engaged in a new, labor-intensive industry: iron smelting.

Iron is a prosaic, everyday metal that was known to ancient metalsmiths long before it was turned into tools and weapons. It was known to the Egyptian pharaohs as early as the New Kingdom; indeed, a fine iron-bladed dagger was found in Tutankhamun's tomb. But the conservative Egyptians were slow to adopt the new metal, which was one reason why their armies were overwhelmed by invading Assyrian forces in the seventh century B.C. By that time, ironworking had become a significant industry at Meroe, perhaps for military reasons. Iron-tipped tools and weapons gave Meroe's armies strategic advantages over their desert neighbors, who were often armed with only stone- or copper-tipped missiles and close combat arms. Meroitic smiths fashioned swords that were worn in scabbards over the shoulder, just as they are today by central Saharan nomads.

Iron ore was plentiful, for a low-grade ironstone formation caps the nearby sandstone hills. Every day, small parties of charcoal burners would set out from the city armed with iron axes. By evening, they would return with large bundles of acacia branches, which would be burned slowly in special fires to convert them into charcoal. It has been estimated that half a million tons of hardwood were cleared from the surrounding landscape over the centuries, for at least 0.9 kilograms (2 pounds) of charcoal are needed for every 0.45 kilograms (1 pound) of iron ore. So much iron was smelted at Meroe that no fewer than thirty-four large slag heaps have been mapped close to the city, mainly to the east of the royal enclosure so that the prevailing westerly winds would have blown the smoke and fumes from smelting away into the desert. Recent research has shown that the peak period of iron production fell early in Meroe's history, between 700 and 300 B.C., before the rise of Meroe as a major power, which makes the size of the slag heaps all the more remarkable. As the city grew in size and importance, industrial activity probably moved to the outskirts, away from the central areas that archaeologists have studied so far.

Meroe's greatest prosperity was in the first century A.D. A century later, Kush was in a slow decline, perhaps because of a shift in trading activity further southward in the Red Sea and because of the overgrazing of local

soils. Between A.D. 325 and 350, King Ezana II of Aksum in the Ethiopian highlands went to war against the nomadic groups on the Atbara River. But his main objective was Meroe, where inscriptions tell of his victory: “I burnt their towns, those of masonry and those of straw, and my people seized their corn and their bronze and the dried meat and the images in their temples.” His armies returned home with rich booty—more than 600 prisoners, 10,500 cattle, and 51,050 sheep, if Ezana’s boastful inscriptions are to be believed. From this time, Aksum overshadowed its neighbor, which fragmented into small kingdoms.

AKSUM (A.D. 100–1100)

We know of Aksum from both archaeological and literary sources. The anonymous author of *The Periplus of the Erythraean Sea* wrote in around A.D. 70 of a prosperous Red Sea port named Adulis and of the “city of the people called Aksumites,” high in the nearby Ethiopian highlands. By his time, Aksum had long been a major player in the Indian Ocean trade.

Aksum came into prominence as a result of its strategic position at the mouth of the Red Sea. Here, less than 32 kilometers (20 miles) of water separate southern Arabia from Ethiopia and its nearby highlands, making it easy for people and ideas to flow freely back and forth from Arabia to Africa. The highlands form a great triangle of mountainous terrain that drains westward into the Nile. The terrain is varied and the soils relatively fertile, allowing the cultivation of cereal crops including a native grass called *teff*, which became an Ethiopian staple. In some places, one can grow two or three crops a year or even plant and harvest within any month. The highlands are seemingly an environment of plenty. By Roman times, the highland Ethiopians were even using oxen to drag plows, the only people in tropical Africa to do so. The highlands sound like another Egyptian Nile, until one looks closer at the environmental constraints. Much of the plateau is rocky, very rugged, or too exposed to constant winds to have much value. The rainfall is irregular, and sudden frosts can decimate growing crops. Swarms of locusts sometimes wipe out ripe gardens in a few days. But the highland Ethiopian farmers flourished and soon came into contact with other lands.

By the late second and early first millennium B.C., the people of the highlands were in regular communication with southern Arabia, across the Red Sea. By 500 B.C., an indigenous monarchy appeared at the northern end

of the highlands. These African kings adopted many Arabian institutions and assumed Arabian titles and religious beliefs. Yeha, in the fertile heartland of what was to become the Aksumite state, boasted of a large palace. Its masonry temple, built during the fourth or fifth century B.C., is similar in many ways to contemporary shrines in southern Arabia. Some inscriptions from the town are written in south Arabian script.

These south Arabian influences resulted from the Red Sea trade, for the highland peoples had access to gold, ivory, and other products. Like Meroe, Ethiopia became a gateway to Africa's riches for traders operating in distant markets in the Mediterranean world and along the northern and eastern shores of the Indian Ocean. The early centuries of the trade brought technological innovations like plows and ironworking and exotic imports from many lands. They also carried new religious ideas from the wider Arabian and Mediterranean world, which permeated an African society under the control of relatively few families, those engaged in trade. Archaeologist Graham Connah hypothesizes that it was the unpredictable, often harsh environment of the northern highlands that lay behind the major changes in Ethiopian society. Perhaps, he argues, those families who held monopolies over foreign trade also controlled the irrigation systems that provided surplus grain in drought years. Within a few generations, the northern highlands were ruled by a hereditary elite, headed by an absolute monarch.

As time went on, Arabian influences, especially in written script, gave way to a more indigenous syllabary written in Ge'ez, the ancestor of modern Ethiopian languages like Amharic. Ethiopian culture assumed a strong identity of its own, as the Aksum civilization blossomed into full flower from indigenous roots during the first century A.D. This flowering occurred when Meroe was at the height of its powers and resulted, in part, from friendly relations and close trading partnerships with Rome.

Adulis, on the Red Sea coast, was the gateway to the capital at Aksum and to the African interior, a bustling hub of international trade. From Adulis, one traveled inland to Aksum in eight days, precisely the same time required in the nineteenth century A.D. The same route took one onward to the Nile Valley near Meroe. Another long caravan route passed northwestward from Aksum for thirty days across the Nubian Desert to Aswan. Adulis became so important that Aksum eventually overshadowed Meroe as the age-old Nile Valley trade declined.

The powerful monarchs *(negusa nagast)* who presided over this remarkable state lived at Aksum itself, dwelling in imposing palaces built in a highly distinctive architectural style. The palace of Enda Mika'el stood on a massive stone platform with stepped sides that served to increase its height and enhance its appearance. Both the platform and the exterior walls were indented to give an impression of great strength. According to its German excavators in 1906, Enda Mika'el was a four-story structure, the upper floors built of timber-reinforced masonry. The ends of timber beams projected from the walls. Four towers added to the general impression of stability and power. Another palace, at Ta'akha Mariam, was a huge complex of courtyards, towers, and multistory buildings, covering an area 120 × 80 meters (394 × 263 feet). The architectural styles of both palaces are distinctively Ethiopian yet owe something to Arabian, and perhaps Roman, inspiration.

The kings of Aksum are known to us from the portraits embossed on gold coins. They wear crowns and sometimes sit on thrones. Their main preoccupation was with wealth; with the colossal and gigantic; with the construction of fine palaces, mansions, and sepulchers. From the first to fourth centuries A.D., their authority was based on southern Arabian deities like the moon god, Almouqah, and Mahrem, the deity of war and kingship. The crescent and disk appear on coins, symbols of the moon and the sun. Successive kings expended vast sums on the construction of shrines and temples that helped validate their secular and spiritual authority.

Nowhere is the power of these monarchs better documented than at Aksum itself, where tall, thin stelae stand high above the ruined city. No fewer than 199 such columns once stood in two groups at Aksum, marking subterranean, rock-cut tombs. The largest towered over 33 meters (108 feet) high, carved to represent a building with thirteen stories, one of the largest carved blocks of stone from the ancient world. The tallest stela still in place is 21 meters (69 feet) high, a symbolic depiction of a ten-story building, complete with false door (see Figure 12.6), although a second, repatriated from Italy (where it had been taken in 1937) in 2005, is slightly taller at 24 meters (79 feet). All this stonework required extraordinary engineering skills, not only to quarry massive stone slabs used to form the stelae and some royal tombs, but also to carve them and set them in place. Relatively few people were expert carvers or scribes. Most of the work was in the hands of unskilled laborers, who used levers and rollers to transport enormous granite blocks in the name of the king.

FIGURE 12.6 A royal stela at Aksum in Ethiopia, erected in honor of King Ezana II during the fourth century A.D. The decoration is in the form of false doors and windows, reproducing the appearance of a multi-storied palace façade. Height 21 meters (69 feet). Sean Sprague/Getty Images.

Like all preindustrial civilizations, Aksum was ruled by people who were masters at commanding and organizing village labor. Everything gives the

impression of enormous wealth, which was concentrated in relatively few families, a hereditary nobility capable of monopolizing the export trade. They used their wealth to deploy large numbers of people as laborers in agricultural works, temples, and palaces and in other, menial tasks. The nobility and the artisans and merchants, who might be called a "middle class," lived in cities like Adulis and Aksum or Matara, about halfway between the two. Most of the people were commoners or slaves. Human beings were one of Aksum's major exports.

For seven centuries after the death of Christ, Aksum, through its port at Adulis, became a gateway to tropical Africa for a rapidly changing Mediterranean and eastern world. Aksum's connections extended to Rome and Byzantium, far into Syria and Armenia, to the shores of the Persian Gulf, and to India. Byzantine bronze weights have been found at Aksum itself. Roman coins of the second and third centuries A.D. have been found in Matara, midway between Aksum and the coast. Another site has yielded 104 third-century Indian coins. With Mediterranean wine amphorae, Egyptian and Roman glass flasks, and Mesopotamian and Egyptian fabrics, Aksum became a marketplace of the Classical world, the first African state to mint its own gold coins (in the third century). Its monetary system was the same as that of distant Byzantium, a measure of Aksum's integration into a much wider commercial world. Aksum was a symbol of a new, much more international world, which sprang from the ruins of the Roman Empire, a world that, in later Islamic hands, was to transform the face of Africa and Indian Ocean lands. For centuries, Aksum lay at the center of a giant web of trade routes that linked tropical Africa with the Red Sea trade and with the wider world of the Indian Ocean. At the height of its powers, Aksum's kings presided over a well-organized state of great wealth, so much so that a Byzantine ambassador was received by an Aksumite monarch who was standing in a chariot drawn by four elephants.

Aksum's connections with the wider world brought new spiritual beliefs to its court. In the fourth century, King Ezana, conqueror of Meroe, adopted Christianity as the official religion of the state. Recent excavation at Beta Samati, a regional administrative center northeast of the capital, has discovered remains of a Christian basilica dating to the fourth century A.D., a type of building typical of early Christian communities in the East Mediterranean. Christianity replaced earlier faiths so effectively that it survived as the Coptic church of Ethiopia long after Aksum itself had fallen.

Aksum remained part of the Indian Ocean world until the mid-seventh century A.D., when the growing influence of Islam disrupted long-established trade routes through the Red Sea and cut off the flourishing state from its Mediterranean markets. In A.D. 702, only nine years before the Arabs crossed into Spain, the Aksumites are said to have attacked Islamic ships in Jedda harbor. It was a foolish move, for the Arabs inflicted savage revenge on a much weakened Aksum.

Aksum subsequently declined and withdrew from the world at a time when the quantity of rainfall was apparently somewhat higher than it is today. Its population rose rapidly, resulting in intense land use, widespread deforestation, and soil erosion, all of which may have sown the seeds for economic and social collapse. By the tenth century, more erratic rainfall may have caused much of the population to move further south into better watered grassland areas, where Christianity continued to flourish and Aksum's cultural legacy survived in magnificent rock-cut churches.

Summary

Nubian civilization developed out of indigenous roots but under strong Egyptian influence. Egyptian pharaohs exploited Nubia for its wealth in ivory and semiprecious stones, garrisoning Lower Nubia to protect their trade routes and secure a frontier. The cattle-owning chieftains of Nubia developed powerful kingdoms when the Egyptian kings were politically weak, as they were during the First and Second Intermediate Periods. New Kingdom Egypt turned Nubia into a colony, which reverted to local control after 1100 B.C. During the seventh century, Nubian rulers from Kush became the kings of Egypt, only retreating gradually upstream when confronted by Assyrian armies in the sixth century at a time of changing economic conditions, at a time when the camel was assuming increasing importance in long-distance trade. The Meroitic kingdom flourished as the focus of trade moved southward and Egyptian captains discovered the monsoon wind cycles of the Indian Ocean. Meroe became a major center for ivory and other African commodities around the time of Christ, when it was also a major ironworking city. After the first century, the Aksumites of the Ethiopian highlands became major powers in the Red Sea and Indian Ocean trade.

Note

1. Lionel Casson, trans., *The Periplus Maris Erythraei* (Princeton, NJ: Princeton University Press, 1989), pp. 63, 87, 91.

CHAPTER 13

Sub-Saharan Africa

FIGURE 13.0 Traditional Zanzibar sailing dhow. ton koene/Alamy Stock Photo.

A.D. 1380, Mombasa, East African Coast. Early winter. The heavily laden sailing ship lies quietly against the weathered pier. A group of finely dressed merchants stand watchfully, their robes swirling gently in the soft monsoon wind. They have been waiting for this day, knowing that the winter monsoon is imminent. A line of near-naked laborers moves carefully along the wharf, bent low with the weight of dirty elephant tusks slung over their shoulders. A man stumbles, nearly falls, and is roundly cursed. He recovers and staggers over the plank gangway. The crew deftly lift the tusk and lower it into the hold. The line of tusks ends. Now the crewmen stack bundles of trimmed mangrove poles around the tusks, so the rich cargo is hidden from view. When the ship is full loaded, the crew eat their evening meal, while the captain sets a guard and goes ashore. Everyone waits for the southwesterly wind to fill in and send them offshore. The very next day, the captain watches the favorable breeze fill in. As the afternoon shadows lengthen, the cargo vessel is poled through the deep water channel, sail is set, and it moves ponderously over the far horizon.

CHAPTER OUTLINE

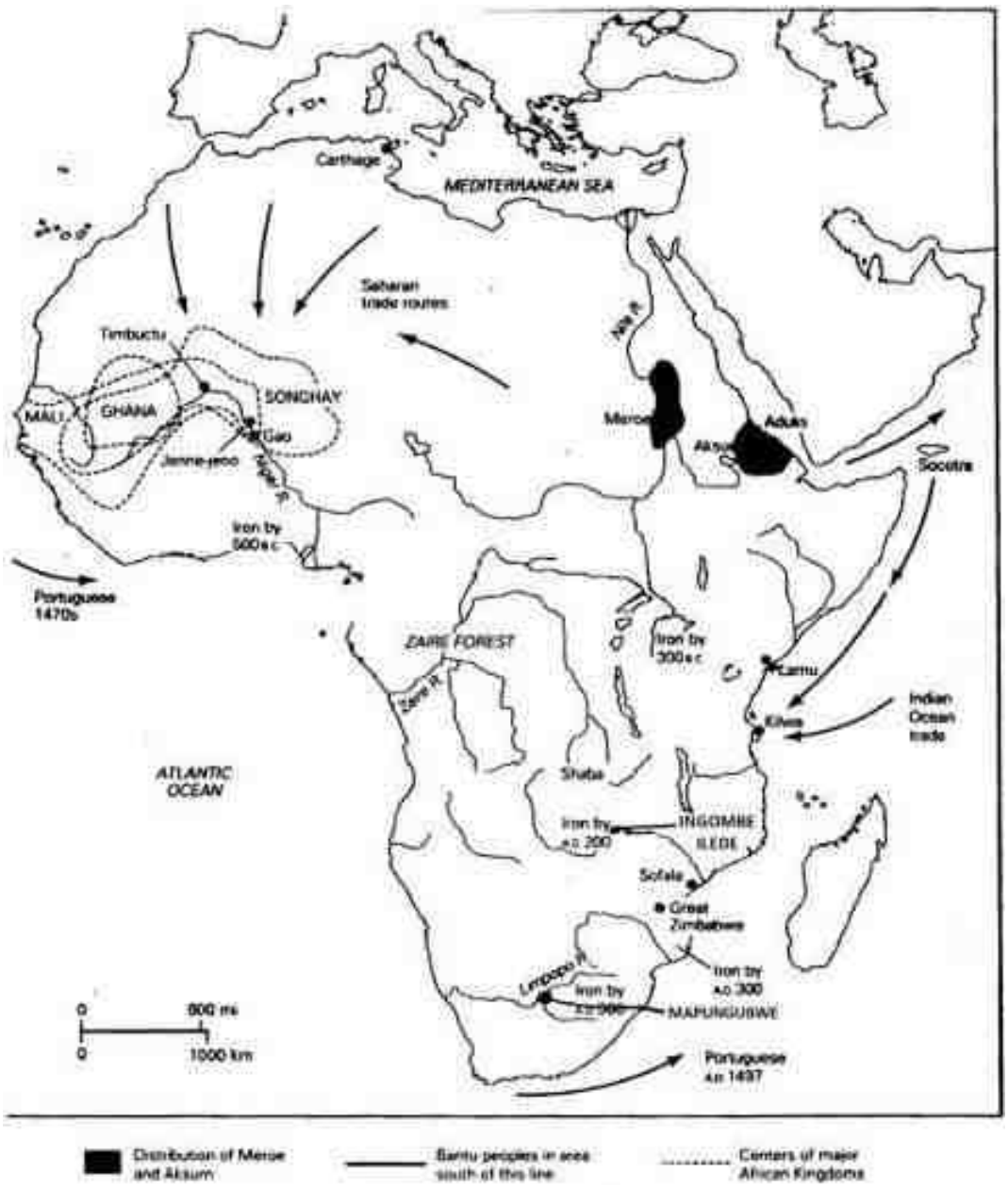
Jenné-jeno (Third Century B.C. to Early First Millennium A.D.)
Sahel States: Ghana, Mali, and Songhay
- *Ghana (A.D. 700–c. 1230)*
- *Mali (c. 1230–1440)*
- *Songhay (c. 1464–1550) 395*

The East African Coast: Monsoons and Stone Towns
The Far Interior: Interlacustrine Kingdoms
South Central Africa: Gold and Ivory
- *Mapungubwe (A.D. 1220–1300)*
- *Great Zimbabwe (Before 1250–c. 1450)*
- *Ingombe Ilede (1480–1640)*

West African Forest Kingdoms
- *Igbo-Ukwu (Ninth Century A.D.)*
- *Akan States (From Eleventh Century Onward)*
- *Ife and Benin City (Late First Millennium* a.d. *to Modern Times)*

For thousands of years after the Ice Age, sub-Saharan Africans flourished in almost complete isolation from other societies, both in the Nile Valley and Northeast Africa as well as in the Mediterranean and Indian Ocean worlds. The seven centuries between the appearance of the first kingdoms south of the Sahara in the ninth century A.D. and the arrival of the first European explorers are known to us almost entirely from archaeology, for both historical records and oral traditions are extremely sparse. French archaeologist and historian François-Xavier Fauvelle calls these centuries a "golden age" of African history and he is probably correct. Africa was home to powerful and prosperous states, witnessed the development of cities ruled by able rulers where foreign traders resided. These volatile kingdoms of great sophistication became part of the increasingly strong currents of global exchange, not only of commodities, but of people and religious ideas. They became part of a much wider world, thanks to the camel, which revolutionized desert travel, and the ancient discovery of the monsoon wind cycles of the Indian Ocean, which brought Africa into the orbit of international trade (Figure 13.1).

FIGURE 13.1 Map showing states and archaeological sites.



The Sahara Desert was one of the greatest barriers to human movement in the prehistoric world. Until about 4000 B.C., sparse populations of cattle herders grazed their herds on the arid grasslands of the Sahara, during millennia when rainfall was somewhat higher. Today one of the hottest, most arid landscapes in earth, the Sahara can be thought of as a kind of giant environmental pump. During wetter centuries, when slightly higher rainfall left shallow lakes and extensive semi-arid steppes, the desert sucked in hunter-gatherer and herding groups. When conditions became drier, the frontiers of the desert expanded. Both animal and human populations moved

to its margins where water and grazing could still be found. The irregular pulses of the desert pump shaped the destinies of peoples living on the margins of the Sahara.

Around 4000 B.C., herding groups moved eastward to the edge of the Nile Valley. Their leaders with their cattle cults are believed to have played an important role in the development of pharaonic rule. The southern frontiers of the desert merged with the Sahel, a belt of semi-arid grasslands, savanna, and shrublands up to 1,000 kilometers (620 miles) wide extending from Senegal in the west to Eritrea on the Red Sea in the east. The Sahel's width expanded and contracted depending on rainfall. Even a few millimeters of rain could make the difference between survival and starvation for the cattle herders of this harsh land. The Sahel's southern margins merge into the tropical rainforest of West Africa, where an inhospitable coastline of mangrove swamps and exposed Atlantic beaches made safe landing at best difficult. In the far west, desert extended right to the coast. These natural barriers meant that any contact between the Mediterranean world and later Europe took place across the desert. It was not until the fifteenth century that Portuguese lateen-rigged sailing vessels were able to round Cape Bojador on the northern coast of Western Sahara, sail southward, then return home by sailing offshore against the prevailing northeasterly winds.

The word Sahel means "shore" in Arabic, an apt term for an ever-changing region, inhabited by nomadic herders, who moved their cattle north and south depending on the time of year and rainfall. As the Sahel became drier after 4000 B.C., so the focus of settlement moved southward as lakes and rivers shrank. But, above all, the Sahel, for all its environmental challenges, was a major shoreline between the indigenous, traditional societies south of the Sahara and a much wider world of desert nomads; Arab societies; and, eventually, Islam. This was, and still is, a zone of remarkable ecological diversity, for thousands of years a world of its own, easy to traverse, and a landscape where people maintained connections both with the forest to the south and with the desert to the north. Climatically, the region is highly sensitive to fluctuations in rainfall. Periods of higher precipitation like that between A.D. 300 and 1100 were times of growth and stability. Periods of drought involved complex, changing relationships between people and the environment.

Unfortunately, our knowledge of Sahelian history is limited almost entirely to the writings of Islamic geographers and early European explorers.

Archaeology is still in its early stages, although there have been important advances in our knowledge of early trading centers long before Islamic times in recent years. Inevitably, much of the history of West African states, like Ghana, Mali, and Songhay, is based on Islamic accounts, which have led to inevitable assumptions that connections with the outside world began with Islamic traders and their camels. These theories have been strongly challenged in recent years, notably by the researches of Roderick and Susan McIntosh in the Inland Niger Delta in Mali, which combined excavation with regional survey.

Despite these investigations, described below, we have no idea when the first fleeting contacts between West African Sahel groups and people on the northern edge of the Sahara took place. One has to look at history on the margins. For instance, for the Egyptian pharaohs, the big attractions of Nubia (now the Sudan) were gold and other minerals, semi-precious stones, and, above all, ivory. The tusks of African elephants are less brittle than those of Indian beasts and are much easier to carve into ornaments and other luxuries, which led to an inexorable demand that expanded massively over many centuries. As we saw in Chapter 12, Meroe's rulers on the Nile presided over a crossroads of caravan routes that penetrated deep into the Sahel, to the Ethiopian highlands, and to the shores of the Red Sea.

These contacts with distant peoples in West Africa and south of the Sahara should not surprise us, given the long history of cattle herding across semiarid desert grasslands, documented from cave paintings and archaeological sources before 4000 B.C. Cattle herding requires constant movement for the herders have to water their beasts at least once a day. They covered long distances in search of grazing grass and water in landscapes that could support very low population densities indeed. Add to this the desert pump effect and you have plenty of opportunities for people to have irregular contact and trading connections with Africans on the far side of the desert. Not that these interactions were anything but sporadic, given the harsh environment of the Sahara. It was, of course, the camel, the so-called "ship of the desert," that made such overland journeys across extremely dry landscapes possible.

The unique qualities of the beast itself made desert travel viable. Camels were first domesticated in Somalia and southern Arabia around 3000 B.C.—the date is uncertain, but perhaps even more importantly, a comfortable load-carrying saddle. As we mentioned in Chapter 12, this seemingly

inconspicuous device was what turned the camel a serious load carrier, something that only happened between 500 and 100 B.C., when the so-called North Arabian pack saddle perched the rider above the hump. This gave the rider the strategic height to fight effectively from his beast, as well as to carry loads in bags slung from its sides, the weight being distributed on the rib cage, not the hump. By the fourth century A.D. Arab merchants were using their camels to compete in the transport business of the eastern Roman Empire. Camel caravans were so effective that humped beasts replaced wheeled transport over a huge swathe of the eastern Mediterranean world by late Roman times.

Camel breeding probably began in Africa between Egypt and the Nile, then spread southward into what is now the Sudan. By the first and second centuries B.C., camel caravans were operating along desert routes east of the Nile Valley. By Roman times, indigenous camel nomads such as the Beja of the northeastern Sudan replaced many Arab camel owners. Venturing westward across the southern Sahara required long journeys, so a variant of the saddle adapted to such travels appeared, the rider controlling the beast with his feet on its neck. This westward caravan route penetrated as far as what is now Mauretania in West Africa. Both ideas and technologies moved eastward from Meroe, among them iron technology and the utilitarian tools and weapons created by the city's smiths.

Early contacts may have been from the east, but exactly when the first camel caravans traversed the waste of the central and western Sahara remains a mystery. There may have been sporadic contacts before Islamic armies conquered North Africa during the seventh century A.D. It was then that trans-Saharan caravan routes came into regular use. Even under the most favorable conditions, the journey was challenging. Routes shifted constantly because environmental and weather conditions changed from year to year. Landscapes were often featureless, intelligence about watering holes and graze hard won. A caravan guide had to navigate with the aid of the constellations just like ancient Pacific navigators, this apart from the constant danger of sudden raids by desert nomads, who could attack without warning. Despite all these hazards, the trans-Saharan caravan trade flourished for centuries, nourished by insatiable demand for West African gold and ivory. Cakes of salt mined deep in the Sahara, passed southward to farmers far from the desert, who craved it. Thus was born what is often called "The Golden Trade of the Moors." Each autumn, camel caravans plodded southward from

places like Sijilmassa in Morocco to Taghaza in northern Mali, where they picked up cake salt from nearby mines. From there, they traveled to various destinations, among them Jenné on the Middle Niger River. There they picked up gold dust, mines from gold-bearing gravels in the Bambuk region of the Senegal River.

As early as the eighth century, West African gold created immense wealth in the Islamic world and financed wars of conquest. By the twelfth century, some caravans numbered as many as 1,200–2,000 beasts. In 1492, the year that Christopher Columbus crossed the Atlantic to the Bahamas, two-thirds of Europe's gold came from West Africa.

This fabulous wealth was long in the future, when the first more complex societies developed in the Sahel, in response to expanding connections over large areas.

JENNÉ-JENO (THIRD CENTURY B.C. TO EARLY FIRST MILLENNIUM A.D.)

The earliest more complex societies in the Sahel developed among herding societies, which measured wealth in heads of cattle and traded in a few exotic objects, like beads and seashells. Such wealth can be transitory, as herds can be decimated by unexpected drought, despite precautions to minimize losses. The leaders of these societies, an elite one might say, were people on the move, their wealth being mobile rather than sedentary. Traces of them survive in mounds used for disposing of ritual objects or for burials. By about 1500 B.C., some of these societies in exceptionally favorable areas like the Middle Niger Delta had developed into semi-sedentary chiefdoms. They were both herders and grew bulrush millet, also relied heavily on fishing and wild plant foods, as well as hunting, concentrated in areas where there were shallow lakes. These may have been some of the groups that had fleeting connections with Saharan groups, but it was not until the first millennium A.D. that small towns, even cities, came into being, epitomized by Jenné-jeno in Mali's Inner Niger Delta.

The Inner Niger Delta is an area of fluvial wetlands, lakes, and floodplains in central Mali's Sahel. Between July and September, seasonal rains cause the swampy terrain to flood and form a lake. This green oasis naturally irrigated the land, which supported dense crops of African rice (*Oryza glaberrima*) and grazing for cattle, goats, and sheep. Rice cultivation in

particular depended on cultivating soils watered by the receding floods. Rich in birds and a haven for migrating birds, the Delta was a magnet for hunter-gatherers and later for farmers and herders. Nomadic cattle groups traveled long distances to graze their herds here. Small villages gave way to some larger settlements as Delta populations rose. By about the third century B.C., a growing town developed at Jenné-jeno, excavated by Roderick and Susan McIntosh. By the first century A.D., the settlement covered 13 hectares (32 acres). Eight centuries later, it consisted of 33 hectares (81.5 acres) of densely packed compounds of round and square mud houses. A mud-brick wall about 2 kilometers (1.2 miles) fortified the growing city—it was nothing less. The core population was probably between 12,800 and 4,200 people. If the nearby mound of Hambarketolo and at least twenty-five satellite villages within a kilometer (0.6-mile) radius are included, the population may have been as high as 10,000 to 26,700 people. Jenné-jeno was densely populated, but other areas of the Delta also supported large numbers of people. There was a general population build up throughout the Inner Nile Delta region between the late first millennium B.C. and the early second millennium A.D.

During these centuries, rainfall was generally adequate, so cities like Jenné-jeno thrived off millet and rice grown in fields watered by the retreating summer floods. The subsistence base was stable for many centuries. The McIntoshes believe that food surpluses from the Delta supported cities like Timbuktu located in less-fertile areas. They believe that much of the exported grain traveled either by camel or by canoe. The food surpluses also supported ironworkers and other specialists such as gold miners and mud-brick builders, as well as expert potters, who worked at the center of a large trading network that had a radius of at least 350 kilometers (217 miles). Textiles were woven in the Sahel by at least the seventh century A.D. The development of both social complexity and cities, as well as long-distance trade, was an entirely indigenous phenomenon, with the influence of outsiders increasing dramatically with the arrival of camel caravans and especially Islam. Despite a lack of field research, there is good reason to believe that population densities were also rising in other areas of the Sahel, like around Lake Chad, where agriculture using receding floods (often called recessional agriculture) was possible.

The social organization behind Jenné-jeno remains unknown, for we do not know whether local Niger society was highly stratified. Nor do we know anything about the rulers, or how tightly authority was centralized. All we

have are indirect clues—similarities in pottery styles and other artifacts over a wide area, a great diversity of artifacts on larger sites closer to the city. If there was a Jenné-jeno state, it was probably not unique, for there are signs of urban development in other areas of the Middle Niger, such as around Timbuktu. There, the population density peaked toward the end of the first millennium A.D., then declined as the climate became significantly drier (Figure 13.2).

FIGURE 13.2 Artist's impression of the market at Jenné-jeno, C. A.D. 1000. National Geographic Image Collection/Alamy Stock Photo.

Burials provide some insights into social complexity, for graves under tumuli are found over a very wide area from Senegal to Mali and into northern Nigeria. Earthen mounds in Mali were sometimes quite complex. The Koi Gurrey mound in Mali is 15–18 meters (49–59 feet) high and contained the burials of two individuals in a wooden chamber accompanied

by 25–30 sacrificial victims. Another interment at El-Oualedji, also in Mali, radiocarbon dated to the early eleventh century A.D., yielded a wooden funerary chamber buried under a 12-meter (39-foot) mound. A vertical shaft extended from the chamber to the summit of the tumulus. The Arab geographer al-Bakri described a funeral where a ruler of Ghana was lain on a bed and lightly covered, the bed lying under a wooden dome. He was accompanied by his arms and supplies of food and drink, also by those who had served him in life. The chamber was sealed, then the people piled a huge earthen mound above the grave. The contents of these and other burial mounds hint at a degree of wealth and social stratification.

Many questions remain unanswered and will remain so until large-scale surface surveys examine large areas rather just focusing on known city sites. Such surveys document site hierarchies, which provide evidence as to the nature of settlement both at the core and on the margins of larger and smaller kingdoms. A number of important sites have been investigated, among them Tegdaoust in the Mauritanian desert, where there were various phases of occupation starting in about seventh to eighth centuries. With the advent of Islam, Tegdaoust became an important port, for want of a better word, for the Saharan caravan trade, tentatively identified as the historically known town of Awdaghust.

SAHEL STATES: GHANA, MALI, AND SONGHAY

By the beginning of the second millennium A.D., the southern Sahara and West African Sahel supported a patchwork of independent kingdoms, whose prosperity came from trade. When Islamic merchants arrived with camel caravans, they found themselves in a diverse, vibrant world, where indigenous religious beliefs played a powerful role in local society. Islam was a proselytizing faith, which sought to covert people both to new religious beliefs and to a different lifeway. The remains of early mosques have come from such centers as Koumbi Saleh and Tegdaoust, but many people, including major chiefs, still adhered to pre-Islamic beliefs, in which reverence for ancestors and elaborate burial customs played a central role.

The catalyst for more universal acceptance of Islam was a rapid expansion in trans-Saharan trade, which is well documented at sites like Koumbi Saleh, where stone plaques with Arabic inscriptions survive. At Tegdaoust, gold and copper ingots, glass vessels, and imported pottery are evidence for long-

distance trade across the desert. At Sané near Gao in Mali, marble gravestones inscribed in an early form of Arabic script date from A.D. 1100 to 1110. These may have been ordered from Spain and carried across the desert on camel caravans. Eloquent testimony to the hazards of Saharan trade survives in the abandoned loads of a caravan buried in a sand dune at Majâbat Al-Koubdrâ halfway across the Sahara. The camel loads included large quantities of brass rods, and cowrie shells of a species found on Mauritius, 9,000 kilometers (5,600 miles) away in the Indian Ocean. This little-known find links the Saharan trade to huge international networks that extended far from the Mediterranean and West African worlds in Islamic times.

With Islam came literary and great wealth from trade in gold, slaves, and ivory, also in Saharan salt, craved by subsistence farmers in the rainforests to the south. There was intense curiosity about the rich West African states among Islamic intellectuals. The eleventh-century geographer al-Bakri, who never traveled away from his base in Spain, described the kingdom of Ghana as so rich in gold that "it is said that the king owns a nugget as large as a big stone."

Ghana (A.D. 700–c. 1230)

Ghana is, of course, a modern West African nation, which assumed its current name at independence from the British. It was once the name of a loosely structured domain that straddled the northern borders of the gold-bearing river valleys of the Upper Niger and modern-day Senegal. No one knows when it first came into being, but Arab writers described the kingdom during the eighth century. "The city of Ghana consists of two towns situated on a plain," wrote al-Bakri. He described an Islamic town with twelve mosques, complete with imams and resident scholars, the other one being the royal precincts. Quite where this imposing capital was located remains a mystery, for nothing convincing survives archaeologically. Another Islamic geographer al-Idrisi (1099–1165) wrote a description of Ghana in about 1154, using accounts by Arab merchants. He described the ruler as dwelling in a fortified palace adorned with glass windows. The king wore silk and marched behind elephants, giraffes, and other wild animals. He was a Muslim, the royal dynasty having converted within the previous century. The capital was

said to comprise two cities, one the royal precincts, the other the commercial city, situated on the banks of a river.

The leaders of kingdoms along the Sahel converted to Islam out of genuine faith, but also because it had major political advantages. Islam gave foreign merchants a sense of solidarity, who exported gold, ivory, and salt, also kola nuts, used as a stimulant. They offered cloth, leather goods, glass beads, and weapons in exchange. According to al-Bakri, the ruler taxed every salt consignment that passed through his domains from the north, much of it on donkey back, with camels being the beasts of burden in the desert itself. How centralized and powerful Ghana was is unknown. Most likely, the ruler probably presided over a loosely knit alliance of minor chiefs and small towns and had little power except for his wealth. In the end, the kingdom dissolved into its constituent chiefdoms during the eleventh century. Ghana became a province of the ambitious kingdom of Mali.

Mali (c. 1230–1440)

Two centuries of constant squabbling ensued, until an exceptionally able ruler named Sundiata assumed power in about 1230. He founded his new capital at Mali on the Niger River. A century later, Mali extended over much of sub-Saharan West Africa. The Catalan Atlas, a spectacular cartographic work of the European Middle Ages, compiled in Majorca in about 1375, displays West Africa, presided over by a black king with loose golden clothing, holding a golden orb and scepter (Figure 13.3). Small wonder he was depicted as a golden monarch for most of Western Europe's gold now came from West Africa, which remained the principal source until the importation of American metal after 1492. According to Arab sources, King Musa ruled from an elaborate mud-brick palace with a domed room in the center, where the ruler held audience. Elaborate, heavily guarded processions marked his public appearances when he worshipped at the mosque. One has the impression that Malian rulers governed with piety, wisdom, and wealth. Unfortunately, no one has yet located the remains of the palace, so we are unable to verify the Arab accounts.

FIGURE 13.3 Ruler of Mali, said to be Musa Mansa, as depicted in the Catalan Atlas (C. A.D. 1375). He holds a golden orb and

scepter, symbol of Mali’s huge wealth. ART Collection/Alamy Stock Photo.

Mali’s Islamic rulers governed with supreme powers granted by Allah and ruled their conquered provinces with carefully selected religious appointees, or even through clever slaves, chosen for their loyalty and political acumen. Islam provided a reservoir of thoroughly trained, literate administrators who believed that political stability resulted from efficient government and sound trading practices. When the celebrated Malian king Mansa Musa left his kingdom and crossed the Sahara on a long pilgrimage to Mecca in 1324, the wealth that accompanied him caused a sensation. So much gold circulated through Cairo that the value of the metal dropped by more than 10 percent for years.

The fame of the Mali kings spread across the Islamic world (Figure 10.12). Timbuktu on the fringes of the Western Sahara became not only a famous caravan center but also a celebrated place of Islamic scholarship.

Most of this prosperity was based on the gold trade. Malian gold underpinned not only much of the Islamic world, but the treasuries of European kings, too. Before Columbus sailed to the New World, Mali and its lesser neighbors provided no less than two-thirds of Europe's gold.

Musa Mansa's reign saw Mali at the peak of its fame and prosperity. Mansa, the tenth monarch, died in 1337. His successors were less able. One of them was Amari Djata II, who squandered the royal treasury on "loose living." After his death in 1373, the rulers of Gao, another major trading center on the Niger River that had been conquered by Musa Mansa, threw off its yoke and founded a rival kingdom, Songhay.

Songhay (c. 1464–1550)

The new state prospered as a series of able rulers expanded their domains. Most famous among them was Sonni Ali, who extended Songhay's frontiers far into the Sahara and deep into Mali country between 1464 and 1494. By 1460, Mali's power had weakened considerably. Sonni Ali monopolized much of the gold and ivory trade at the same time, relying on large armies to maintain law and order and control the volume of commerce that passed through his domains. His competent successors further expanded the kingdom. Songhay was at the height of its powers when Columbus landed in the Bahamas in 1492. When Europe explored the Americas, its nations acquired new sources for precious metals that trebled the amount of gold and silver circulating in Europe in half a century. The annual output from America was ten times that of the rest of the world. The Saharan gold trade declined sharply. Cities like Gao and Timbuktu, as well as the kingdom of Songhay, crumbled into relative obscurity. By 1550, Songhay had collapsed, and the center of political power moved south into the tropical forests and coastal regions that are now Ghana, Nigeria, and the Ivory Coast, where European ships traded for gold, ivory, and slaves.

THE EAST AFRICAN COAST: MONSOONS AND STONE TOWNS

Mesopotamia and the Nile, as well as the Indus Valley (see Chapter 5), lay close to, or within, the world of the monsoon winds. As we saw in Chapter 12, decoding of the winds of the Indian Ocean began long before the

Christian era. Three thousand years ago, sailing down the Red Sea and then coasting along to the Persian Gulf was commonplace. But the offshore route direct from Arabia was much faster. Ships left the mouth of the Red Sea in July and arrived off India in September. They would sail home on the wings of the boisterous southwesterly winds of winter. These direct voyages were apparently a Greek innovation, possible because of the rigid hulls of their ocean-going vessels, far more seaworthy than sewn, planked Arab vessels.

Once the direct passage became known, open-water voyaging took off. Roman coins became common in India. The island of Socotra off the south coast of Yemen and northeast Africa was a major center for the spice trade, where Africans rubbed shoulders with Arabians, Indians with Egyptians. During the first century A.D., an anonymous seafarer, probably an Egyptian Greek, compiled *The Periplus of the Erythraean Sea*, a seaman's guide to the coasts of the Indian Ocean. Clearly based on first-hand knowledge, the author described anchorages and ports of call along the East African coast, which he called Azania, "in which there is ivory in great quantity and tortoise shell." We learn from the *Periplus* of the island of Menuthias, perhaps Zanzibar, remarkable for its boats with sewn planks and dugout canoes. Two days further south lay Rhapta, "the very last market town of the continent of Azania," where there was "ivory in great quantity, and tortoise shell." Generations of archaeologists have searched for Rhapta without success. Perhaps it was a large, temporary encampment, dependent on the irregular ebb and flow of gold and ivory. Beyond was unexplored ocean, until Portuguese voyagers rounded the Cape of the Good Hope and sailed northward to the East African coast.

The East African coast is a slow-moving place, caressed for much of the year by gentle northeasterly winds. Long before the first outsiders sailed to East African shores, a scatter of fishing villages and hunters lived inside coral reefs between Somalia as far south as Zanzibar in Tanzania, and beyond. Quite when the first sailors from the north arrived is unknown, but it could have been as early as the first millennium B.C. There was sporadic monsoon trade as early as the first century B.C., but there were much more intensive contacts between the coast and interior sources for such materials as elephant ivory long before Islam arrived on East African shores in the late eighth century A.D. Small settlements of Islamic communities settled along what is now the Kenya coast as early as A.D. 750, as demand for gold and ivory skyrocketed in the Mediterranean world and elsewhere. The African coastal

trade expanded rapidly and foreign merchants developed lasting relationships with local rulers and prominent merchant families.

By 1100, a string of small Islamic towns flourished along the coast from Somalia in the north to Kilwa in southern Tanzania. They formed a distinctive coastal civilization that was based entirely on the Indian Ocean trade. From places like the islands of Kilwa and Zanzibar, small caravans set off for the interior, carrying bundles of cotton, glass beads, and thousands of seashells from Indian Ocean beaches from one strategic intermediary inland to the next. Cowrie shells and the more spectacular *conus*, whose circular base became a highly symbol of chieftainship in the far interior. This trade was very one-sided in strictly monetary terms, for the glass beads, cheap cloth, shells, and other luxuries perceived as prestigious in the African interior were worth a fraction of the gold dust, copper ingots, ivory, and slaves that fueled the maritime commerce of an entire ocean.

The Swahili of the coast were Africans with long experience of the remote interior. They carefully maintained links with long-distance networks that extended far inland. Coastal people controlled the sources of cowries and other seashells that were highly valued inland, and made cake salt from seawater, which was much prized by subsistence farmers. Swahili ironworkers fabricated finished artifacts that passed hand to hand inland. The coastal merchants exchanged Indian cloth and glass beads for gold and ivory. Elephant ivory was easily obtained and highly valued in distant India, as it was much easier to carve into ornaments than brittle local tusks. Gold was far harder to obtain, as the sources were far to the south, with dust and nuggets coming from the interior between the Limpopo and Zambezi rivers. Gold workings in what is now Zimbabwe are estimated to have produced about 710 kilograms (10,000 ounces) of gold annually over a period of eight centuries. The first flowering of medieval culture in Europe owed much to the gold and ivory that flowed northward from West Africa and the East African coast.

When the East African trade first began is unknown, but it was certainly well before Islam arrived during the eighth century A.D. There were certainly occasional voyages southward, for clay vessels of Mediterranean origin have been found on Zanzibar dating to as early as the fifth and sixth centuries. The initial contacts would have been with farmers and herders in the coastal hinterland, initially in such prosaic commodities as dried fish, grain, and iron. Much of the earliest Islamic commerce came from the Arabian coast, where

there was a constant demand for African mangrove poles for roof timbers in treeless environments. But, for all the gradual intensification of the monsoon trade, especially in gold, ivory, and slaves, Swahili culture on the coast remained distinctively African, the people part of extremely multicultural societies, acquired by regular contact with the vast networks of the monsoon world, which extended far beyond India to Southeast Asia.

The earliest Islamic communities probably comprised a few merchants and their families, such as the Shanga village on the northern Kenya coast, dating to as early as 750 to 780. A small mosque stood in the center of the village. Coinage minted there has been found far down the coast. The East African trade mushroomed after about 960, when large supplies of easily carved African ivory appeared in Europe and the Islamic world. But the real catalyst was gold, both for ornamentation and for a commodity of great market value. As contacts intensified, foreign merchants developed lasting relationships with local rulers and prominent families. The newcomers brought new artistic and architectural styles with them—and the artisans to produce them. A new way of life developed that aped Muslim courts in the Middle East. By all appearances, the local people adopted new practices and displays of wealth, as well as at least a superficial vanish of Islam. But agriculture and herding remained the staples of daily life.

More than 400 archaeological sites, most of them small villages, document East African settlements before the arrival of the Portuguese in the late fifteenth century. There were, however, a few important towns, such as Shanga, Manda, and Ungwana, as well as Kilwa and Sofala in the far south (Figure 13.4). Some boasted of hundreds of stone houses and populations that may have been as high as 10,000 people. Life along the coast centered around “stone towns”: compact trading settlements, each with their own mosques, almost all of them close to the shore, reflecting their dependence on the coast. The towns were compact, the buildings fabricated of coral masonry, each dominated by prominent urban merchants. The “stone towns” were ports of call of the ocean-going ships engaged in the monsoon trade, strategically located close to routes to the interior. Here vessels could find safe anchorage and be hauled down on their sides for cleaning and repair. Some of the densest populations thrived around natural harbors like Lamu in today’s northern Kenya and at Mombasa and Kilwa further south. Here fertile hinterlands produced ample food supplies. From these ports, smaller coastal vessels sailed far south into waters where the monsoons winds were less

reliable. Their skippers knew every reef, every minor channel and obscure anchorage. They knew which local headmen and chiefs were friendly.

FIGURE 13.4 The Grand Mosque at Kilwa in Tanzania. Kilwa was a major port and trade center between the thirteenth and sixteenth centuries A.D. Xinhua/Alamy Stock Photo.

The stability of Islam, the constant demand for African commodities, and the predictable winds gave the towns a basic permanence. The coastal towns flourished within 1,100 yards (1,000 meters) of the sea, close to their ties to the monsoon trade. Their appearance coincided with the growth of an increasingly affluent class of urban merchants, who controlled most of the wealth and thus had access to political power. The rulers and merchant families maintained contact with one another and with partners inland and abroad. The culture was shared from one town to the next, but each was an independent entity, this being a linear coastline plagued by constant water shortages. There was rarely conflict in a world of commercial and political

alliances cemented with well-timed diplomatic marriages. The oldest and most respected urban families, the *waungwana*, formed the pinnacle of coastal society. They monitored the shifts in the monsoon winds and predicted when fleets of sailing vessels would arrive and depart. They would accumulate cargoes in advance, arrange credit and assume debt, become wealthy and comfortable within a stable marketplace. The "stone towns," with their fine houses, mosques, and civic buildings, reflected this stability. But, above all, this was an African society, fortunate to be at a great crossroads of the vast networks of the monsoon wind trade that encompassed a quarter of the earth. This distinctive African coastal civilization thrived in all its diversity until the arrival of the Portuguese explorer Vasco da Gama in 1498, and beyond.

THE FAR INTERIOR: INTERLACUSTRINE KINGDOMS

By all indications, the merchants of the stone towns had few, if any, contacts with the states of the far interior of Central Africa. These kingdoms are virtually unexplored archaeologically and are known mainly from descriptions of nineteenth-century travelers. For instance, the capital of the kingdom of Baganda at the north end of Lake Victoria in modern Uganda was described in 1889 as "one of Africa's great capitals." This was the city of the *kabaka*, the supreme ruler, but it has vanished, being built of grass and wood, and was abandoned after his death. In 1862, John Hanning Speke, who identified the source of the Nile, described the imposing city as lying on a hill "covered by gigantic huts."

Lack of visibility is a persistent problem with sites in this huge region, also lack of archaeological research. The Kingdom of the Kongo's capital in northern Angola is unexplored, as are kingdoms in Rwanda. Fortunately, we know something about sites in the Interlacustrine Region where savanna borders the Congo rainforest. The environment was ideal for subsistence, agriculture, and fishing, so population densities were higher than elsewhere. The drier areas supported grasslands ideal for cattle herding.

In the Upemba Depression on the eastern shores of Lake Kisale, a long sequence of cemeteries provides information on the antecedents of the Luba kingdom dating from the fifth century right through to the nineteenth. Ceremonial iron axes with handles adorned with iron nails look much like those by later Luba chiefs as symbol of authority. Several eighth-century

graves contain ceremonial iron gongs, so there is a long history of chiefly authority and presumably some form of social stratification in this area. Dwelling sites, transitory as they were, are unknown. Here, a combination of agriculture, hunting, and fishing provided food for quite dense population counts. Copper in the form of tools, ornaments, and ingots was much prized as a symbol of wealth. With rich copper sources reasonably close by, a broad range of metalwork, and clear evidence for specialist crafts, this was a fertile environment for increased social stratification. But there are few signs of external trade beyond a few glass beads and sea shells from the Indian Ocean. This was an entirely indigenous society.

The Interlacustrine Region was home to the Ankole state, whose capital, like that of Baganda, moved frequently. Oral traditions enabled the identification of several capitals, one of which, Bweyorere, occupied between the seventeenth and nineteenth centuries, was excavated and found to be a large pastoral settlement with clear signs of a large palace, but a population of no more than a few hundred people. The site is mainly low banks of cattle dung forming irregular enclosures. Much remains to be excavated, but how much more will be learned from such work is questionable, given the poor state of preservation.

To the north of Ankole, a series of large earthwork enclosure sites include Bigo, which has some 10 kilometers (6.2 miles) of banks and ditches that enclose about 5 square kilometers (1.2 square miles). Bigo's enclosures were built during the fifteenth and sixteenth centuries, one theory suggesting that they were large, prestigious cattle corrals. Certainly the amount of labor needed to build them was enormous. This large site is one of a complex of enclosure sites, but the most informative location is Ntusi—15 kilometers (9 miles) to the southwest. Ntusi has no enclosures, was occupied between the eleventh and fifteenth centuries, and was clearly a settlement, despite large numbers of young cattle bones and clear signs of cereal agriculture and grain storage. The site was abandoned while Bigo was still in use. It is thought to have been the center of a cattle kingdom, eventually abandoned in favor of the better watered area around Bigo.

Both the societies in the Interlacustrine Region and the Luba state developed from relatively small, privileged groups, whose wealth was defined by cattle. These eventually became small states, which prospered not because of external contacts, but from local networks that spread new crops like bananas, metals, and other cherished commodities and objects that

generated wealth. All this happened with minimal, indeed almost no contacts, with the exchange networks emanating from the East African coast.

SOUTH CENTRAL AFRICA: GOLD AND IVORY

For the merchants of the stone towns of the coast to acquire raw materials like gold and ivory from the interior required a completely different set of political and social relationships that were much harder to maintain. The Swahili, being Africans with long experience of the interior, carefully preserved links with long-distance exchange networks that extended, spiderweb-like, far inland. These routinely carried grain and skins, ornaments such as sea shells, and salt from village to village. The same networks carried Indian glass beads, cotton textiles, and other exotica far inland. By acquiring trading partners inland, the Swahili maintained control over prized items like seashells. Their ironworkers fashioned finished artifacts for the trade. They rarely traveled inland themselves, relying on local groups, and also on hunters, who provided ivory in exchange for cloth. Gold was harder to acquire, as the main sources were far to the south.

The most prized sources of gold and ivory, also other raw materials, also slaves need to carry them, lay in the little-known interior of South Central Africa between the Zambezi and Limpopo rivers. Hot, low-lying river valleys and hundreds of narrow bush paths connected village to village and chief to chief on the ivory- and gold-rich plateau far inland. A rugged escarpment separates the Indian Ocean coastal plain from the higher ground of the Zimbabwe Plateau, which averages over 1,000 meters (3,250 feet) above sea level. The high ground of rolling plains was covered by savanna woodland with patches of fertile soils, a relatively cool, comparatively well-watered environment. Extensive grasslands provided grazing for large herds of cattle, goats, and sheep, while subsistence farmers could grow millet, sorghum, beans, and squashes.

Farmers had first settled on the highlands around the time of Christ. Unfortunately, unpredictable rainfall and a long dry season could undermine both agriculture and herding, especially during long drought cycles. The Plateau offered far more than fertile soils and grazing grass. Gold, extracted from both alluvial deposits and quartz reefs, soon became a staple of long-distance trade. Copper, iron, and tin were also to be found. Herds of ivory-tusked elephants flourished in many places.

Granite abounds on the Plateau, which exfoliates in thin layers in response to temperature changes. The resulting slabs were easy to break up into rectangular blocks of uniform size that are ideal for building stone walls. This durable building material was inexhaustible. When natural blocks ran short, one could obtain more by lighting fires on the rock surfaces, then quenching them with cold water. The local people combined granite blocks with clay and other building materials to create remarkably neatly built stone walls. The most famous of these structures is Great Zimbabwe, but there are many others.

The Shona peoples who called the highlands home were quick to realize the potential of long-distance trade with visitors from the distant Indian Ocean coast. By A.D. 1200, Shona society had acquired some complexity, as local chiefs exchanged gold and ivory for exotic commodities like cloth and glass beads, which they then used to cement their political power, also to acquire more grain and cattle. A mosaic of small and large chiefdoms developed on the Plateau and in nearby river valleys, each with enough territory to graze their cattle through the wet season and the dry months.

At first, the coastal trade was at best sporadic, but, after the tenth century, trade and exchange expanded dramatically, as demand for gold and ivory mushroomed and the coastal towns achieved great prosperity. Inevitably, some chiefdoms achieved dominance as they managed to control trade routes and exact tribute from surrounding chiefs. Two powerful kingdoms soon flourished in the interior, Mapungubwe in the Limpopo River valley, now the border between South Africa and Zimbabwe, and Great Zimbabwe to the north.

Mapungubwe (A.D. 1220–1300)

Mapungubwe lies in an extensive valley system, where the Shashe and Limpopo rivers become one. This is a low-lying environment, where present-day rainfall is inadequate for the cultivation of sorghum and millet. However, between about 1000 and 1300, the Medieval Climate Anomaly with its higher rainfall caused regular flooding and allowed subsistence agriculture. The landscape also abounded in elephants, which, like cattle, thrived on good grazing grass. These circumstances led to increased social complexity and the development of rank-based societies where cattle were important as a source of wealth, bridewealth, and social ranking. The ancestors of the chiefs who

founded Mapungubwe dwelt in sometimes large villages, one of which lay in the shadow of the hill overlooking the valley where chiefly power was centered. In this society, political status depended on one's kin relationship to the reigning chief. We know little about how social complexity developed, or of the changes that resulted, but by 1220 a small group had moved atop Mapungubwe Hill, which overlooks the valley. Long a center of rainmaking activity, it became a secluded place where sacred leaders lived in isolation in a changing world where long-distance trade was widening chiefly horizons. The more abundant rainfall of the time seems to have given validity to Mapungubwe's leaders' perceived spiritual powers.

By this time, Mapungubwe society was divided into a hierarchy of commoners, district chiefs, and the elite. At least twenty-four burials have been excavated on the hill, but only eleven have survived for analysis. One gold-laden burial, thought to be that of a major chief, was adorned with a wooden bowl covered with gold foil, a golden scepter, and a rhinoceros covered in gold sheet (Figure 13.5). The wealth of the elite, and of their domains, was based on cattle, but, above all, on the trade in gold and ivory. Sophisticated analyses of the glass beads from the site, as well as the Chinese porcelain, show that the site was occupied as late as the fifteenth century, making it broadly contemporary with Great Zimbabwe to the north.

FIGURE 13.5 Rhinoceros figure from Mapungubwe, covered with gold sheet. Heritage Image Partnership Ltd/Alamy Stock Photo.

Mapungubwe was not alone. Shadreck Chirikure, Munyaradzi Manyanga, and other African scholars have studied sites in southwestern Zimbabwe that lie in arid landscapes like those in the area where the Limpopo and Shashi rivers join. They have shown that the peoples who lived in this region developed both short- and long-term strategies that enabled them to adapt both to seasonal changes and to climatic shifts. Each site was carefully positioned in major river basins to ensure permanent water supplies. Flat-topped hills with steep sides, the summits duly modified with stone walls, served as safe cattle corrals. Some settlements lay close to copper, iron, and gold sources that were both used locally and traded with other sites, such as Mapungubwe. Well-established dry-land agricultural methods were used, based on careful soil selection, depending on rainfall, water harvesting, and rainmaking rituals, and the use of drought-resistant crops, like sorghum and major efforts to store grain. Such farming flourished for many centuries over a wide area, including attempts to reduce cattle mortality from tsetse fly bites by protecting the herds with smoky fires and other measures.

The rich biodiversity of the entire region supported communities that engaged in local and long-distance trade that carried basic commodities, metals, and imports over wide areas. Some of these small kingdoms rivaled that of Mapungubwe, achieving prominence, then vanishing into obscurity, thriving in arid landscapes that for a long time have been described, wrongly, as marginal. Their success came from craft specialization in copper- and ironworking, in mining raw ores, even making iron spears for elephant hunting. Such "craftscapes" were centers of technological expertise. Their products could be traded for rain and other foods, again reducing the risk of crop failure. Some of these societies achieved a degree of political and social complexity, but the ultimate name of the game was risk management, both through agricultural expertise and craft production, but also through the sharing of knowledge and experience from one group to the next.

Great Zimbabwe (Before 1250–c. 1450)

Great Zimbabwe is one of sub-Saharan Africa's iconic sites, a valley of stone-built enclosures and other structures dominated by the towering, free-standing walls of the Great Enclosure (Figure 10.15). A large hill known as the Hill Complex overlooks it. The hill lies at the head of a valley that brings mist and dew in from the distant Indian Ocean during the dry season, making this a long-established place for rainmaking ceremonies, which may have begun as early as the sixth century A.D. They persisted into the thirteenth century, which was also a time of drought at Mapungubwe.

Sophisticated Bayesian analyses of the radiocarbon dates from the Hill Complex show that Great Zimbabwe was already an important place before Mapungubwe became significant. Until recently, a popular theory proposed by archaeologist Thomas Huffman, argued, on the basis of pottery styles, that a relative of the Mapungubwe ruler may have moved northward and married into the traditional leadership at Zimbabwe. Such an alliance would have strengthened the ties between the two kingdoms, just as the coastal trade reached new heights. Huffman has been proved wrong. The new dates from both Mapungubwe and Great Zimbabwe provide clear proof that the two kingdoms overlapped and were not part of a linear move toward greater cultural complexity, the one succeeding the other in importance. The two polities were competing equals, not one the founder of the other. Social and political complexity did indeed arise between the thirteenth and fifteenth

centuries, but it was a complex process involving several locations, not just Mapungubwe and its northern neighbor.

Swahili traders on the coast expanded southward to a major center at Kilwa, now in southern Tanzania, where they had access to gold and ivory, the demand for which was increasing as far away as China. Great Zimbabwe was closer to the coast, which made the expansion of Mapungubwe's domains a strategic move. The site served as capital for a large cattle kingdom for 150 years. Its leaders glorified revered ancestors as a basis for their rule, their affluence coming from the gold and ivory trade, also from large cattle herds, a traditional measure of wealth. Their hereditary dynasty also acquired power from its prowess at rainmaking.

The rulers may have lived in isolation from commoners atop the Hill, but the high walls of the Great Enclosure reinforced the great distance between the elite and other people during the period of the site's greatest affluence (Figure 13.6). They presided over a kingdom that grew to be several times larger than that in the Limpopo Valley. The center of power moved to other enclosures in the valley as presiding chiefs changed their residences. This may have been because political succession in Shona culture did not pass from father to son. If the founder of a state has many sons, then political succession may alternate between all of the chiefly houses, passing from the oldest to the youngest. Meanwhile, the homestead of Zimbabwe's founder on the Hill Complex assumed religious significance and became an important shrine. Chinese porcelain, Indian cloth, and glass beads were among the imports found in the deposits inside the Great Enclosure. Iron gongs survive as traditional symbols of African chieftainship, but, tragically, frenzied excavations during the early twentieth century in search of gold and other treasure destroyed much of the evidence that would have told their story. There is, however, no evidence that the Zimbabwe chiefs embraced Islam. Their powerful kingdom was the center of a truly indigenous African kingdom.

FIGURE 13.6 The Conical Tower in the Great Enclosure at Great Zimbabwe. The solid stone tower is thought to be a depiction of a symbolic grain storage bin. Naomi Bailey/Alamy Stock Photo.

The heyday of Great Zimbabwe and Mapungubwe was between 1350 and 1450, just before Europeans arrived on the coast. The former was abandoned sometime after 1450, when the local grazing grass and farming land became depleted and persistent droughts caused the population to scatter into small villages away from a place that may have attracted as many as 20,000 people (the estimate is, at best, approximate).

Great Zimbabwe is the largest of at least 150 drystone ruins on the Plateau, often built in the Zimbabwe style with multiple enclosures of freestanding drystone walls. To the southwest, drystone walling at chiefly sites like Khami and Danangombe, occupied between the fifteenth and nineteenth centuries, retained platforms on which mud and clay huts were erected. Both Portuguese documents and oral traditions speak of a new kingdom of a paramount chief named Mwene Mutapa that flourished in the northern part of the Plateau after Great Zimbabwe faded into obscurity. Little is known archaeologically of Mwene Mutapa's domains, but there were certainly long-distance trading activities that involved both the Middle Zambezi Valley and the northern Plateau.

Ingombe Ilede (1480–1640)

When the Portuguese landed at Sofala near the mouth of the Zambezi river, it was a matter of time before they joined existing Swahili and African trade networks that headed inland upstream from the Indian Ocean. They established small market settlements along the Lower Zambezi and near gold and copper sources in northwestern Zimbabwe, within the Mwene Mutapa state, over the next century. Far upstream, 1,000 kilometers (620 miles) from the ocean, the foundations for a water tank dug into a low ridge known as Ingombe Ilede in 1960 unexpectedly yielded eleven richly adorned burials. Nine of the graves were those of males, buried with iron, copper/bronze, gold, and glass beads. Their limbs were swathed in fine wire bronze bangles, probably made on site, the wire being wound around raffia palm fiber cores. Copper ingots and bundles of wire lay by the heads of the richest burials, also hammers and perforated iron bars for drawing wire. A finely made iron gong, here as elsewhere probably a symbol of chieftainship, lay by one burial. Strings of glass beads, known to be of Indian origin, also gold ones, swathed their necks. One man wore a necklace of no less than nine *conus* shells, one with a gold backing plate, known to have been of great symbolic value in the nineteenth century. These were clearly high-status individuals. Fragments of fine cloth, perhaps of Indian origin, covered some of the limbs, also coarser textiles, probably woven locally.

The dating of these skeletons has long been the subject of debate, but recent AMS radiocarbon dating of the textiles dates them to between A.D. 1480 and 1640. Thus, they belong to a dynamic period when the Mwene Mutapa state emerged as a northern expression of the Great Zimbabwe tradition and the Portuguese were establishing trading stations downstream. Most likely the individuals buried at Ingombe Ilede were African or part-Swahili traders, who worked closely with the local people. The Ingombe Ilede area abounds in elephants, and traded salt, as well as copper and gold from northern Zimbabwe, which could have made it a crossroads for all kinds of exchanges. Many questions still surround Ingombe Ilede, but it provides a tantalizing glimpse of the ancient trade that brought gold and ivory from the far interior of South-Central Africa to a much wider world.

WEST AFRICAN FOREST KINGDOMS

With the arrival of Portuguese explorers and traders on the southern coast of West Africa in the late fifteenth century, the focus of international trade

shifted southward from the Sahel. This was a tangled coastline of dense mangrove swamps, creeks, and small estuaries, separated by sandy beaches pounded by Atlantic surf. Behind the coastline lay dense, tangled forest and fast-growing vegetation. The climate was unhealthy, the environment seemingly unattractive, but there were good reasons to return and return again, in one word—profit. The visitors soon found that there were large, densely populated communities inland, whose inhabitants were anxious to trade with the foreigners.

There were towns and cities inland, members of well-organized states. Some of them amazed European visitors, like the Dutchman Dierick Reuters, who described the main street of Benin City in about 1600 as "great broad street, not paved," seven or eight times wider than the long-established Warmoes street in Amsterdam. There were sophisticated states and cities in the West African forest during the late first millennium A.D., long before Europeans arrived.

The West African rainforest was never wider than some 400 kilometers (250 miles), passing in the north into the more open country of the Sahel. The forest landscape was extremely diverse, much of it extensively modified by clearance and agriculture. It is far wetter than the savanna to the north, with a longer rainy season and higher humidity. Plant foods abounded; among them several species of yam and the oil-palm, as well as kola (a prized stimulant), these being used long before Southeast Asian and American plants like cassava and maize came into use. Game was far from plentiful and mostly on the smaller side, but elephants could be hunted. Domestic stock could not be kept, owing to tsetse fly infestations. Valuable metals like copper, gold, and iron were available, as were numerous medicinal and other products. A lively trade in slaves from densely populated areas of the forest was also a significant resource for the Sahara trade, and later for the coast. They human carriers accompanied gold, ivory, pepper, and kola nuts across the Sahara to the north.

The inhabitants of the forest became expert iron smiths, which meant that they could exploit their environment very effectively. Their surroundings yielded abundant food resources, as well as possessing some fertile soils for agriculture. The farmed lands were of varying productivity, but sufficient food could be grown to allow food surpluses that supported larger communities with increasingly diverse specialists. As populations grew, pressure on the land developed, and control of resources passed into fewer

hands. Forest societies became increasingly stratified, so much so that in some places the ultimate authority passed into the hands of a single individual. By the beginning of the second millennium and probably somewhat earlier, this authority was boosted, not only by control of people and resources, but legitimized by carefully nurtured spiritual associations. Simultaneously, and to what extent is still uncertain, both local and longer distance external trade played a role in the development both of cities and states through the region. Significantly, most such cities came into being in northern areas of the forest or on the savanna fringe, in places where donkeys transferred their loads to human carriers. States tended to lie on important trade routes; the rulers of these states acquired significant income both from resources under their control, and from the trade itself. Some of the imports that passed to them, like seashells, fine textiles, and gold ornaments, became important status symbols both for the chiefs themselves, and as rewards for their followers. The forest states developed political, social, and economic institutions that were always adapted to local conditions and were logical developments of earlier farming cultures. In time, they also responded to economic and political opportunities from outside.

Igbo-Ukwu (Ninth Century A.D.)

The earliest centuries of trade between forest and the Sahel are barely known, except for a single, remarkable burial. Igbo-Ukwu is a town in southeastern Nigeria, which lies in an area where the local Ibo people never developed cities or states in earlier times. Authority was, and still is, traditionally somewhat dispersed, but, nevertheless, an important, wealthy individual was laid to rest during the ninth century with no less than 685 often elaborately decorated copper and bronze objects—copper anklets, a copper breastplate, a crown and fan-holder, and a leopard's skull modeled in bronze. Some of the finest objects from the tomb are ornamented bronze castings made by the lost-wax technique, where wax in a clay casting is melted and replaced with metal, a highly sophisticated method. The copper and copper alloy have been sourced to an area 100 kilometers (62 miles) east of Igbo-Ukwu. About 165,000 imported carnelian and glass beads lay with the burial. They must have come either across the desert or from the east through the Sahel. The three elephant tusks found in the grave imply that their owner was engaged in

the ivory trade, which may have passed up the Niger and across the desert. Whether such wealth was commonplace is unknown.

Akan States (From Eleventh Century Onward)

Much of the gold trade northward from the forest to the Niger Delta was controlled by the Akan states, which flourished by the late fifteenth century. The earlier Akan states were on the margins of the forest, known from excavations at Begho, a large market town on the edge of the Ghanian forest, founded as early as the eleventh or twelfth century. By the seventeenth century, Begho covered 3 square kilometers (1.2 square miles), with four separate quarters between 1 and 2 kilometers (0.6–1.2 miles) apart. They survive as groups of mounds, the remains of mud-walled houses. At least 1,500 dwellings are known, with a population as high as 10,000 people in the seventeenth century. One quarter was a Muslim one, another the royal residence, the other two artisan's and trader's precincts. Begho flourished off herds of cattle, goats, sheep, and pigs, as well as agriculture. But the major economic player was long-distance trade, as it was at other large settlements, among them Bono Manso in the same region, occupied until the eighteenth century. Over time, such towns became more compact, as if political authority became stronger. These Akan centers thrived off the Saharan trade, but after European contact the center of Akan states moved further south into the forest.

Ife and Benin City (Late First Millennium A.D. to Modern Times)

Urbanization also took hold in what is now southwestern Nigeria, with most Yoruba towns developing in another transitional zone between grassland and forest. The earliest of these was the town of Ife, which is still a center of great ceremonial and spiritual importance to the Yoruba. Excavations in Ife reveal that the site was occupied during the late first millennium A.D., but the main occupation dates to between the late fourteenth and early fifteenth centuries. Ife expanded around the ruler's palace centered with a series of concentric walls, which remain largely undated. The city is remarkable for its sophisticated terracotta, copper-based alloy castings, and stone sculptures, which appear to commemorate important people (Figure 13.7). This was a

place where art flourished, perhaps involving patrons, especially since the copper alloys were imported from elsewhere.

FIGURE 13.7 Bronze head from Ife. sunugal/Alamy Stock Photo.

In 1553, an English merchant captain, Thomas Windham, visited Benin City. He was ushered into the presence of the ruler, who “sat in a great huge hall, long and wide, with earthen walls without windows, the roof of thin

boards, open in sundry places, like unto louvres to let in air." Benin City was a prosperous, sophisticated metropolis with an extensive hinterland. It lies deep in the rainforest, its origins still a mystery. Graham Connah, a brilliant excavator, cleared a 12.5-meter (41-foot) deep cistern that contained a thirteenth-century mass burial of at least forty-one young women decorated with clothing and ornaments: sacrificial victims dropped into the shaft, a practice that persisted with other pits until as recently as 1897. He believes that other such pits lie deep below the modern city. The mass sacrifice was a power symbol of strongly centralized authority.

Benin's ancient city walls consisted of a huge earthen bank and ditch with a total height, from the ditch base, of 17.4 meters (57 feet), and a circumference of 11.6 kilometers (7.2 miles). This would have required thousands of people to build, even over a period of several dry seasons, another symbol of very authoritarian leadership. There was even more, an extensive network of rural earthwork enclosures covering a staggering area of about 6,500 square kilometers (2,510 square miles), erected over several centuries. Peter Darling, who carried out survey work around the earthworks, has theorized that the area was colonized by Edo-speaking people of Benin moving southward from the savanna frontier to the north. But unfortunately the earthworks remain undated.

So do the world-famous Benin heads, beautifully executed castings that reinforce the notion of a social hierarchy and individuals who patronized artists (Figure 13.8), Unfortunately, few have come from a scientifically excavated context, but thermoluminescence dates from fired clay in some castings date to as early as the fifteenth century.

FIGURE 13.8 A Benin *oba* (chief) and two warrior attendants depicted on a cast brass plaque that hung on the exterior of the palace at Benin. Everett Collection Historical/Alamy Stock Photo.

The center of commercial activity gradually shifted southward to what was known to visitors as the Guinea Coast, once European travelers returned home with valuable cargoes. In 1554, an English trader, John Lok, led a voyage to the coast. He returned with “four hundred pound weight and odd of gold, of twenty-two carats and one grain in fineness; also thirty-six butts of grains [pepper] and about two hundred and fifty elephants’ teeth of all quantities.” This was but the prelude to a thriving slave trade, especially after the colonization of the Caribbean and South America.

The so-called African Middle Ages conventionally ended with the European Age of Discovery, with the opening up of the Guinea Coast and the rounding of the Cape of Good Hope by Portuguese explorer Bartolomeu Diaz in 1488. Then, in 1498, Vasco da Gama sailed northward past Madagascar and cast anchor in Mombasa harbor. From Mombasa, he sailed across to India on the southwestern monsoon and the at first sporadic, then intensive, European exploitation of sub-Saharan Africa and its human and natural resources began, followed by colonization. The tragic story of the later African slave trade and of the European "scramble for Africa" lie outside the scope of this chapter.

Summary

This chapter describes the states that flourished in sub-Saharan Africa between about the ninth century A.D. and the arrival of the first European explorers during the fifteenth century. Sedentary chiefdoms gave way to larger, more complex societies in the Inner Niger Delta by about the third century B.C., centered around the growing town of Jenné-jeno. By the eighth century A.D., West African gold created great wealth in the Islamic world, as trade routes developed across the Sahara into the Sahel. Three historically known states, Ghana, Mali, and Songhay, flourished off the Saharan gold and salt trade, which expanded under Islamic influence until the trade declined rapidly after 1550. Trade was a major factor too on the East African coast, where Islamic towns were part of the monsoon wind network of the Indian Ocean by the eighth century. Other states, still little researched, thrived in the Interlacustrine Region of East Africa, their wealth coming from cattle. Further south, long-distance exchange networks linked the East African coast with powerful kingdoms on the interior plateau, notably at Mapungubwe in the Limpopo Valley and at Great Zimbabwe to the north. Great Zimbabwe flourished through trade in gold and wealth in cattle until the fifteenth century, while in West African, states including Ife and Benin developed in the forests south of the Sahel at about the same time.

CHAPTER 14

Divine Kings in Southeast Asia

FIGURE 14.0 A tree enveloping a temple building at Ta Prohm, Cambodia. Happystock/Fotolia.

The rain never stops, pouring inexorably from the low, gray clouds onto a watery landscape. The water buffalo strains at the iron-tipped plow, his master beating him with a stick. The plow cuts deep into the waterlogged soil, turning over thick clusters of rotting weeds and churning them into the mud. Blue-green algae cascade around the buffalo's hooves, as rainwater held back by low banks at the edge of the field flows through a narrow defile and across the plowed soil toward a nearby stream. At the edge of the rice paddy, the women, oblivious to the wet, transplant new plants from a large seed bed, setting the seedlings in long rows. A well-dressed official watches the planting under the shelter of a red ceremonial umbrella, mentally assessing the potential yield from the crop.

CHAPTER OUTLINE

The Rise of States in Southeast Asia (c. 2000 B.C.–A.D.150)
- *The Dong Son Culture (c. 1000 B.C.–A.D. 43)*
- *Trade and Kingdoms*
- *The Rise of the God-Kings*
- *Supreme Kings*

The Angkor State (A.D. 802–1430)
- *Holy Cities*
- *A Religious Utopia*

Collapse

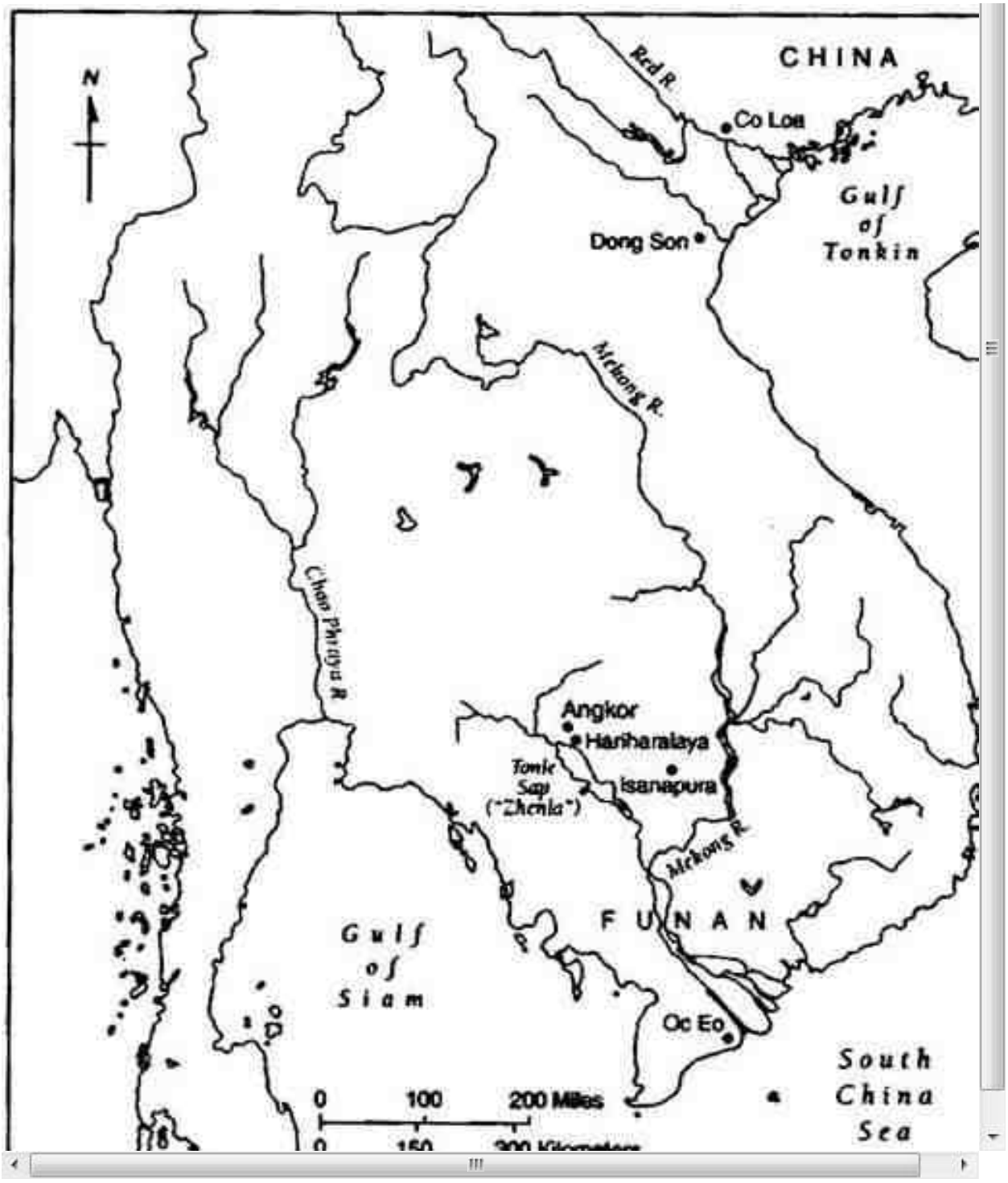
Rice agriculture was the foundation of civilization in south India and of village life in Southeast Asia long before complex societies appeared east of the Bay of Bengal. But the productivity of "wet" rice agriculture lies at the very center of the debates over early civilization in Southeast Asia. Were the early states of this region indigenous developments, or did they arise as a result of pervasive contacts between Indian civilizations and regions to the east? As voyaging increased, especially from southern India to Southeast Asia, a strong cultural influence began to be felt. The tribal societies of Southeast Asia were introduced to many alien products and some of the foreigners' philosophical, social, and religious beliefs. According to traditional South Asian histories, the Mauryan Emperor Asoka himself sent

three missionaries to spread Buddhism in Southeast Asia. In a few centuries, kingdoms appeared that were run according to Hindu or Buddhist ideas of social order. These uniquely Southeast Asian states are the subject of this chapter.

THE RISE OF STATES IN SOUTHEAST ASIA (C. 2000 B.C.–A.D. 150)

Ten thousand years ago, the Southeast Asian mainland extended far offshore, most of it low-lying marshland intersected by several major river systems. As Ice Age sea levels rose, so the continental shelf shrank. The three major river systems of Southeast Asia are much reduced versions of earlier rivers, each with its own fertile delta (Figure 14.1). The middle Thailand and Chao Phraya delta forms one such system; the lower Mekong and Tonle Sap plains (the major concern of this chapter), a second; and the Red River and Ma and Ca rivers of Vietnam, a third. All these rivers flood seasonally, inundating large areas of farmland with shallow water, where long-stalked, fast-maturing rice can be grown. These three river valleys, the homelands of complex societies for many centuries, are fertile enclaves surrounded by higher ground, where deciduous, drought-resistant forest and moist tropical forest flourish. The same rivers have formed important communication arteries for many thousands of years. Watered by monsoon cycles and marked by considerable local variations in climate and topography, parts of Southeast Asia have supported high population densities only within the past 2,000 years.

FIGURE 14.1 Map of archaeological sites described in Chapter 14.



The staple crop in ancient Southeast Asia was rice, domesticated in China's Yangzi River Valley before 6000 B.C. Rice farming was well established in Southeast Asia by the third millennium B.C., probably in the hands of immigrant farmers from the north. The Khok Phanom Di site near

the Gulf of Thailand, flourished between 2000 and 1500 B.C., founded by hunter-gatherers and fishers near the mouth of a major estuary. They were probably in contact with rice famers living upstream. The excavators, Charles Higham and Rachanie Thosarat, unearthed stratified burials spanning an estimated eighteen generations. They believe that the coastal people embraced rice agriculture, as the people upstream added marine hunting and gathering to their economy. The Ban Non Wat site in northeastern Thailand, occupied between 1500 and 1450 B.C., has yielded the graves of more than 700 early rice farmers and indigenous hunter-gatherers. Burials, many with rich offerings, are thought to be immigrant rice farmers, and others with few adornments perhaps the indigenous people.

Southeast Asia's egalitarian farming communities adopted bronze metallurgy from about 1000 B.C. and traded widely with one another. Both mining and smelting were important activities, probably during the agriculturally quiet dry season. By 500 B.C., iron technology was in use as local populations rose and settlements grew much larger, some of them with as many as 25,000 inhabitants. The new metallurgy was grafted onto existing bronze technology, but it is uncertain whether ironworking was introduced from India, where forging (smelting in a small furnace) was used, or from China, which developed sophisticated casting methods that involved molten iron at very high temperatures. During the same centuries glass beads and other ornaments of Indian origin appeared for the first time, passed from one community to the next by already-existing exchange networks. For the first time, larger communities appeared, usually important centers for craft production.

In earlier times, rice cultivation was concentrated in small stream valleys and along the margins of major river floodplains. The appearance of larger settlements may have coincided with both intensive wet farming and the advent of plowing and double-cropping, which greatly magnified food production and produced much larger surpluses. Those who had control of salt, copper, or tin deposits or who lived in a strategic location where trade routes passed or who had a monopoly over specific trade goods like glass beads or iron implements could achieve unusual wealth and political power. These were the centuries when Southeast Asians began to participate in maritime trade routes that linked the mainland and offshore islands, New Guinea and the Philippines, as well as India and China. Carnelian beads and a carving of a lion found at Ban Don Ta Phet in central Thailand reveal trade

links with India as early as the fourth century B.C., while bronze bowls from the same site belong to an Indian tradition of tin casting with incised decoration.

A portrait of society at the time comes from the Noen U-Loke site in the Mun Valley of northeastern Thailand, where a sample of 126 graves dating from 400 B.C. to about A.D. 600 shows a dramatic increase in the amount of effort expended on burying the dead. Some of the deceased were laid in graves filled with rice. Others were lined and capped with clay coffins. The graves lay in clusters of men, women, and children, presumably family groups. One cluster contained a man with almost 150 bronze bangles, another was associated with spindle whorls, and a third was dominated by a woman with a golden necklace. Three of them featured exceptionally wealthy individuals, adorned with bronze belts, bangles, golden beads and ear disks, and other elaborate ornaments. These were not peaceful times, perhaps the product of an increasingly crowded landscape. One man lay prone with an iron arrowhead buried in his spine.

Throughout Southeast Asia, population densities and social complexity increased, as rich and warlike chiefdoms appeared at the end of the first millennium B.C. Expert seafarers and traders, they were active participants in a much larger world that linked the Han Empire of China with India and the mainland to islands far offshore. This trend toward complexity and competition was an indigenous development, even if innovations from outside fueled political and social change. Larger communities developed, usually centers for craft production. In earlier times, rice cultivation had been concentrated in small stream valleys and along the margins of major river floodplains. Such dry rice farming was much less productive than wet cultivation in waterlogged fields (paddies), which produced much higher and more predictable crop yields. The appearance of larger settlements may have coincided with both intensive wet farming and the advent of plowing, the construction of moats round sites, and double-cropping, which greatly increased food production and produced much larger rice surpluses.

More centralized governance also developed, focused on large centers ruled by highly ranked lineages. Their power was underwritten by their control of food surpluses and rice lands, by their support of expert artisans, and by carefully managed exchange monopolies over high-status imports and exotic materials. The leaders of these societies wore fine ceremonial weapons and badges of rank, and they lived in finely decorated houses. Over a period

of several centuries, far more complex societies developed, especially in fertile riverine areas—societies whose leaders controlled maritime and inland trade over large areas. The exposure to artifacts, technologies, and ideas from China and India grew alongside these major changes as powerful leaders surrounded themselves with all the panoply of public ceremony, ritual feasting, and ostentation.

The Dong Son Culture (c. 1000 B.C.–A.D. 43)

Complex societies were developed in Vietnam's Red River Delta and lowland coasts, the Khorat plateau, and Laotian uplands. The best known is the Dong Son culture of the Red River Valley, where a moist climate allows two rice crops a year.

The indigenous origins of the Dong Son culture go back to at least 1000 B.C., when bronze smiths were already at work in the valley. After 500 B.C., bronze artifacts proliferated in Dong Son graves, not only utilitarian artifacts but also numerous ceremonial objects, including weapons, buckets, and drums. The intensification of bronze working required enormous quantities of metal and much larger food surpluses, obtained by extensive wet rice agriculture in the Red River Delta. Dong Son metalworkers were masters of their craft, casting elaborate, richly decorated artifacts, and they eventually adopted the iron technology of their Chinese neighbors to the north. Drums, in particular, became symbols of high social status in Dong Son society. One from the Co Loa site weighed no less than 72 kilograms (159 pounds). Many Dong Son drums bear incised and modeled scenes of important lords in large boats with cabins and fighting platforms, crowded with paddlers and warriors. They even show drummers beating their drums, scenes that testify to the importance of music in Dong Son ritual.

The Lac lords were paramount chiefs, warriors, and keepers of the drums, who ruled over this prosperous society. One of them ruled from Co Loa near Hanoi, founded by the third century B.C. Co Loa boasted three sets of ramparts and moats supplied with water from a tributary of the Red River. The fortifications enclosed 600 hectares (1,500 acres). Unfortunately, most of our knowledge of the Dong Son culture comes from cemeteries, so we do not know how large various chiefdoms were or anything about lesser settlements.

The Chinese were well aware of the Dong Son chieftains. The Han knew of them as the most distant of "southern barbarians" and traded and fought

with them for centuries. Finally, in A.D. 43, the warrior-nobles of Dong Son succumbed to their powerful neighbors. Their domains became a Chinese protectorate, but Han records tell us that they retained their traditional rights over land.

Trade and Kingdoms

By about 300 B.C., the sea-trading networks of Southeast Asia were part of a much larger commercial universe. Finds of sewn-plank boats dating to the third to fifth centuries A.D. testify to a long tradition of seafaring. Chinese records tell us that some ocean-going vessels were up to 50 meters (164 feet) long and weighed as much as 500 tons. Striking evidence of the monsoon trade comes from the Sembiran site in Bali, where archaeologist A.W. Ardika has found Indian trade pottery from the southern Indian coast 4,350 kilometers (2,700 miles) westward as the crow flies. The traders themselves were an entirely maritime people of no particular nationality, called generically *Mwani*, or "barbarians," by the Chinese of the time. They spoke polyglot tongues and were of many lands, some Malays, some Indians, true wanderers who ventured as far east as the South China Sea. Another term, *Kunlun*, was applied to the dark-skinned people of island Southeast Asia, and then extended to include East Africans. The Gulf of Tonkin and south China were served by *Jiwet*, Chinese mariners who brought luxuries to the coast, whence the goods were transported overland to the imperial capital.

That India had a profound influence on the development of Southeast Asian civilization is unquestionable. Between 300 B.C. and A.D. 300, Southeast Asian chiefdoms came in increasing contact with Indian merchants and Chinese officials and armies. The Mauryan Empire was based, as we have seen, on Buddhist beliefs and on political principles said to have been set by Katilya, chief minister of Chandragupta Maurya, founder of the empire. His tract, the *Arthasastra*, argued that the king had a divine nature. He was like a father, supervising his ministers and protecting the people. He controlled crime through the legal system and encouraged agriculture, manufacturing, and trade. In this formulation, the state was a centralized system sustained by taxation and backed by force or the threat of force. Katilya's ideas coincide quite closely with archaeologists' definitions of early states and were to influence ideas of statehood in Southeast Asia for many centuries. Indian merchants used the monsoon cycles to travel back and forth

across the Bay of Bengal, remaining for some months in Southeast Asia, waiting for the change of seasons. They carried cargo and passengers, among them Hindu Brahmans and Buddhist monks, educated men with sophisticated and mature views of statehood. As seen at the port site of Khoo Sam Kaeo, some Indian craft workers also chose to settle in Southeast Asia to set up their new workshops.

Southeast Asia was a vital link in the chain of trading ports that connected China to India, and Asia to the Roman Empire. The maritime trade brought a vigorous exchange of ideas and new cultural influences. Inevitably, argues Sinologist Paul Wheatley, Southeast Asian chieftains learned a new way of seeing society and the world, perhaps by assembling the collection of commodities for trade and acquiring organizational skills. The authority and powers needed to expand and maintain the commerce were not part of the kin-linked society in which the chieftains had lived all their lives. In time they became familiar with the Brahman and Buddhist conceptions of divine kingship. There was even a brahmanic rite by which chieftains could be inducted into the ruling class, a group whose authority was vested in an assumption of divine kingship.

Toward the end of the first millennium B.C., some Southeast Asian societies had become highly ranked, centralized kingdoms, presided over by an aristocratic class to whom formal display, feasting, and ritual were of paramount importance. They ruled by virtue of their close relationships with their ancestors. As in Maya society in Mesoamerica (see Chapter 17), rank and ancestry were closely connected. The growing complexity of such societies came in part from the ability of their overlords to attract loyal followers and to organize people. In time, many such rulers aspired to even greater status, to presiding over far larger kingdoms carved out by force, charisma, or the creation of magnificent palaces and temples that served as the focus for elaborate public ceremonials and prestigious displays.

These Southeast Asian kingdoms were in a constant state of political flux and without fixed boundaries. The currency of political life was external, but always fluid. Alliances developed between neighboring rulers. Everything revolved around the principal overlord, whose ability to cement alliances and deal with potential enemies dictated his relationships with his rivals. Some experts use a Sanskrit word, *mandala*, an Indian political doctrine, to describe the relationships between these rulers, whose territories are thought of as circles, but the term is not universally accepted. It is as if the various polities

were concertinas, which expanded and contracted as different polities interacted with one another. Each society focused on its own center and on its own religious ruler and his retinue. The personal and spiritual qualities of each leader were important variables in a complex, ever-changing political equation.

Divine kingship revolutionized social and political organization in Southeast Asia. Kingdoms flourished in riverine and lowland areas, along the lower Mekong and in the middle Mekong Valley, including the celebrated Tonle Sap plains, the homeland of Khmer-speaking peoples. (Khmer is an Austroasiatic language of considerable antiquity.) There were also kingdoms on the Khorat plateau, along the central Vietnamese coastal plain, and in the Red River area, the latter under Chinese control.

The Chinese also had well-defined views of statehood, forged from a turbulent historical tradition, which culminated in the unification of China under Emperor Shihuangdi in 221 B.C. By this time, iron was all-important in Chinese agriculture and warfare as the Han emperors waged wars of conquest on the northern and southern frontiers. Thus, it was that the Dong Son kingdoms of the Red River became a Chinese protectorate in A.D. 43. Almost two centuries later, the Han dynasty ended and the Southeast Chinese state of Wu came into being. Wu was cut off by its rivals from the lucrative northern trans-Asian trade routes with the West, so its rulers and their successors investigated the possibilities of southern and western maritime routes. Generations of Chinese officials visited Southeast Asian kingdoms, investigating southern sea routes to India, while local rulers in turn visited Wu. For centuries, the peoples of Southeast Asia came under the direct influence of Chinese and Indian ideas.

The Chinese called the lower Mekong region *Funan*, which meant “the port of a thousand rivers,” but the term has little real historical meaning. According to Chinese records, the ports of the delta handled bronze, silver, gold, spices, and even horses brought by sea from central Asia. One such port was Oc Eo, linked to the coast by a canal, a large town excavated by French archaeologists. Another was Angkor Borei. The two communities were linked by canals that drained water and also carried trade goods. Populations were densely concentrated, land was acquired through territorial conquest, and marshes were drained for more farmland. Whether there was a single kingdom or a series of competing chiefdoms is a matter for debate. Chinese accounts of Funan extol its rich trade. They tell of a drainage and transport

system that rapidly transformed much of the delta from barren swamps into rich agricultural land. The development of these fields took the communal efforts of hundreds of people living off the fish that teemed in the bayous of the delta. Most Funanese lived in large lake cities fortified with great earthworks and moats swarming with crocodiles. Each major settlement was a port connected to the ocean and its neighbors by a canal network.

The coastal region prospered greatly from the third to the sixth centuries A.D., thanks to its long traditions of indigenous metallurgy and other crafts and trading expertise. In the sixth century, many more Indian Brahmans arrived in the region. They reinforced the cult of the god Shiva. He appeared in the temples in the form of a *linga*, a phallic emblem of masculine creative power. Where rulers were worshippers of Shiva, the royal *linga* stood in a temple that symbolized the center of the capital.

The political situation along the lower Mekong was always volatile, especially since the kingdoms upstream had only indirect contact with foreign traders. Leaders inland responded by carving out new routes to the coast, bypassing the delta. In this, they were successful. By the sixth century A.D., the center of economic and political gravity had shifted to the middle Mekong and the Tonle Sap, an area the Chinese called *Zhenla.*

The Tonle Sap, the central basin of Cambodia, was fed by numerous rivers, its fluctuating water levels supporting many acres of fertile soil. Most of the year, the basin is a shallow series of muddy pools some 66 kilometers (40 miles) long, drained by the Tonle Sap River, which runs into the Mekong. However, so much water floods into the Mekong Delta between August and October that the Tonle Sap's course is reversed and the pools become a vast lake, 133–167 kilometers (80–100 miles) long, 25–50 kilometers (15–30 miles) wide, and up to 16 meters (50 feet) deep. Late in October, the water starts receding, trapping millions of fish in the muddy bayous. In the twelfth century A.D., the environment was so bountiful that it supported dense urban populations and generated large food surpluses, sufficient to support a glittering, wealthy civilization. This favored region could provide ample food supplies if reservoirs and water control systems stored and distributed the annual flood over thousands of hectares of agricultural land. Local leaders competed with one another, forged alliances, sometimes waged war. Stronger chiefdoms conquered their neighbors or remained independent. The weaker ones succumbed to neighbors. Constant warfare and political maneuvering led eventually to the emergence of hereditary rulers and small states.

The Rise of the God-Kings

Competing Zhenla rulers acquired sufficient food surpluses to embark on ambitious conquests and, eventually, to develop a new political concept of divine kingship that united their far-flung domains in a common purpose: the glorification of the god-king on earth. Devotion to the Hindu creator, Shiva, became a mechanism that provided divine justification for kingship, as well as a focus for the loyalty and devotion of a ruler's retinue, who would endow temples in return for royal favors. The first king to be accorded a divine title was Jayavarman I, quite late in the Zhenla Period, during the seventh century A.D.

Between the time of Christ and the end of the eighth century, centralization and high status were so unstable that they could fluctuate considerably within an individual's lifetime. Ambitious men would try and try again to raise themselves above others and their kingdoms to supreme rule. Throughout the centuries, these were never states in the Western sense of the word. Rather, the "concertina" effect of kingdom politics was constantly at work, with competing polities asserting independence at times, becoming tribute givers and vassals at other times.

The Mekong River linked the Khorat plateau and the enormous drainage basin of the Tonle Sap with the sea. The Tonle Sap itself was fed by numerous rivers, its fluctuating water levels supporting many acres of fertile soil. At the time of Christ, the farmers of this favored region lived under local chiefs, who controlled local reservoirs, water control being critically important for successful agriculture. Small kingdoms, which developed over the next few centuries, maintained their independence or coalesced, depending on the abilities of individual overlords to assert their authority. Some of the leaders of royal families were men of exceptional ability, remembered in Sanskrit inscriptions on their temples.

Supreme Kings

Excavations at Sambor Prei Kuk (ancient Isanapura), the capital of the historically known ruler Isanavarman, revealed a large settlement surrounded by square or rectangular moats. There were three separate walled precincts, each dominated by a large central sanctuary set on a platform and reached by a flight of steps. Each was a gift from the ruler. Isanavarman is described in

temple inscriptions as energetic and wise, a ruler like the sun in the sky, and the issue of revered kings of the earth. Foremost among the virtuous, Isanavarman "exceeded the limits of his parents' domain."

Hinduism in India embraced the notion of supreme devotion to the god Shiva through control of mental and physical forces. An aspiring ruler would obtain proximity to Shiva, the divine creator, by extreme asceticism, humility, and personal devotion. He absorbed Shiva's physical and spiritual power and acquired an aura of divinity. Devotion to Shiva became a mechanism that provided divine justification for kingship and a focus for the loyalty and devotion of a ruler's retinue, who would endow temples in return for royal favors. Such was the case along the Mekong Valley, where rulers like Isanavarman became divine kings, governing with the aid of a deeply embedded and inherited Indian political philosophy. Some rulers were aided by Indian Brahmans, who consecrated overlords and served as important legal and political advisers. Great and wealthy families became ministers and physicians, governors, poets, and learned scholars, deeply involved in public affairs and in the accumulation of wealth through trade and taxation to sustain the kingdom.

The Mekong kingdoms were organized on the principle that successful overlords accumulated wealth and power for themselves in a highly competitive environment. The acceptance of Buddhism and Hinduism by the local elite enhanced their sanctity, with the emerging cities of Southeast Asia serving above all else as symbolic and ritual centers where divine kingship reigned supreme. Scholarly opinion differs concerning the relative importance of Indian notions of kingship, but it certainly played a major role in binding the elite to the center through a blind devotion to the god Shiva and the divine king associated with him.

THE ANGKOR STATE (A.D. 802–1430)

The overlords of the Tonle Sap all shared one ambition: to establish hegemony over as large an area as possible. The earlier kings were unable to hold the kingdom together until a dynamic Khmer monarch named Jayavarman II came to power in A.D. 802. He conquered his competitors and set up his new territories as tribute kingdoms, giving his loyal generals land grants. Jayavarman II is said to have merged the cult of the ancestors with that of Shiva in the form of a *linga* to consolidate his new kingdom. A much

later inscription tells us he called himself “Supreme King.” His subjects were taught to worship him as a god. All resources of an increasingly centralized government were devoted to the preservation of the cult of the god-king. Everyone, whether noble, high priest, or commoner, was expected to subordinate his or her ambitions to the need to perpetuate the existence of the king on earth and his identity with the god in this life and the next. This remarkable leader reigned for forty-five years, the first of at least three dynasties of Khmer rulers, who often came to power after vicious fighting and presided over an ever-changing state that reached the height of its prosperity between A.D. 900 and 1200.

Previous monarchs had encouraged the worship of Shiva in the form of the phallic image, but now Jayavarman II presented himself as the reincarnation of Shiva on earth. He was the *varman*, the protector, and his priests were the instruments of practical political power. The high priests were invariably energetic, imposing nobles who presided over a highly disciplined hierarchy of religious functionaries. The ruler himself headed a bureaucracy of high-status families, which included generals and administrators who settled land disputes. The bureaucracy supervised every aspect of Khmer life, from agriculture to warfare, tax collection, and the rituals of the state religion. As always with preindustrial civilizations, there was a close link between food surpluses and the control of the enormous labor forces needed to construct temples, reservoirs, and other public works. Most building activity probably took place during the dry months. The custom of building a new majestic and holy temple to house the royal *linga* of each king was the most important of all the religious rituals.

Jayavarman II’s new strategy was brilliantly successful. He founded a civilization that prospered for 600 years, and he united the Khmer kingdoms into a colorful state that reached the height of its prosperity between A.D. 900 and 1200. Successive Khmer kings presided over a civilization whose religious institutions functioned on the basis of consensus. Their society flourished on notions of conformity—on the belief that by giving to the temple, and therefore to the royal elite, people earned merit for themselves. For the next three centuries, each Khmer king ruled as “great master, king of kings.” When the people were admitted to a king’s presence, they prostrated themselves not before the gods but before the god-king. The Khmers’ unique form of kingship produced a society that carried the cult of wealth, luxury, and divine monarchy to amazing extremes.

Holy Cities

Five kings succeeded Jayavarman over the century after his death in A.D. 850. They unified his domains and consolidated his conquests. Jayavrman II established his capital at Hariharalaya, where he established the tradition of great cities. When he proclaimed himself supreme ruler in 802, he founded a new capital at Mahandraparvata on a holy plateau named Phnom Kulen 40 kilometers (26 miles) west of Angkor Wat. Once located in a deforested landscape, the huge capital now lies under dense tree cover, its size only revealed by airborne laser scanning (LiDAR), a sprawling cityscape of small settlements, ponds, canals, and urban blocks. No one knows why the city was abandoned, but it may have been due to environmental stresses that caused food and water supplies, or simple because it became too large to be manageable.

One of Jayavarman's nephews, Indravarman I (A.D. 877–889), started an architectural tradition followed by Khmer kings for almost four centuries. He built a large reservoir 3.2 kilometers (2 miles) long and 0.8 kilometers (0.5 miles) wide at Hariharalaya; then he built a raised temple platform, which housed images of the deified royal ancestors; and finally a temple mausoleum for himself, which was usually associated with the linga that bore the name of his preferred god. The water in the reservoir served practical irrigation and residential requirements but was also a symbolic lake at the foot of the royal mausoleum, itself a representation of Mount Meru, the mythical home of the Hindu gods north of the Himalayas. Indravarman's temple pyramid, the Bakong, was built of stone and surrounded by a moat 800 × 650 meters (500 × 404 feet). The scale of these buildings and waterworks was stupendous compared to anything built by the king's predecessors. The reservoir alone was 150 times larger than any earlier humanly made lake in the region. Hariharalaya became the first *Angkor*, a Sanskrit word meaning "holy city."

Indravarman's successor, Yasovarman, moved the royal capital slightly to the west, where a small hill rises 65 meters (213 feet) above the plain. This became his symbolic Mount Meru. Atop it rose the Bakheng, which has seven levels, representing the seven heavens. Moreover, the 108 towers have important cosmic imagery, being divided into 4 sets of 27, each representing the phases of the lunar cycle. Each terrace contains twelve towers, representing the twelve-year cycle of the planet Jupiter. Thus, the Bakheng is a symbolic representation of Mount Meru, the center of the kingdom, the

capital, and the universe. Its plan is an astronomical calendar in stone, which shows the positions and paths of the planets as conceived within the Indian notion of cyclical time.

Many of the thirty monarchs who followed Jayavarman II left massive religious edifices to commemorate their reigns. These they built on artificial mounds in the center of their capitals, the hub of the Khmer universe, an area known today as *Angkor*. The Khmer's unique form of kingship produced, instead of an austere civilization like that of the Indus, a society that carried the cult of wealth, luxury, and divine monarchy to amazing lengths. This cult reached its apogee in the reign of Suryavarman II, who built the temple of Angkor Wat in the twelfth century (Box 14.1). This marked a change in the organization of Angkor. Up to this point, in the ninth and tenth centuries A.D., the urban centers of Angkor had been "open" cities clustered around central state temples. By the twelfth century, however, these open cities had been supplanted by rectangular grid-plan structures. At the same time, land and power were increasingly concentrated in the hands of the temple elites.

Box 14.1 Sites *Angkor Wat, Cambodia*

Four years after his succession in A.D. 1113, King Suryavarman II commenced building his masterpiece, an extraordinary shrine that is a spectacle of beauty, wonder, and magnificence, the largest religious building in the world. Angkor Wat (Figure 14.2) is 1,500 meters (5,000 feet) by 1,200 meters (4,000 feet) across. The central block measures 215 × 186 meters (717 × 620 feet) and rises more than 60 meters (200 feet) above the forest. It dwarfs even the largest Sumerian ziggurat and makes Mohenjo-daro's citadel look like a village shrine.

FIGURE 14.2 Angkor Wat in Cambodia, a temple built by Khmer ruler Suryavarman II in the early twelfth century A.D. as a representation of the Hindu universe. Sorin Colac/Alamy Stock Photo.

One approaches Angkor Wat through an entrance gallery with a tower by a paved causeway 150 meters (500 feet) long that is flanked with balustrades adorned with mythical, multiheaded snakes (Figure 14.3). It opens into a cruciform terrace in front of a rectangular tower that rises in three imposing tiers to a central cluster of five towers. Each bears a lofty pinnacle, which from afar looks like a giant lotus bud. The causeway leads across a huge moat 180 meters (600 feet) wide and enclosed by masonry walls 6.4 kilometers (4 miles) in circumference. The engineers built the walls with a total error of less than 2 centimeters (an inch). The moat is still a beautiful sight, with floating water lilies, wild orchids, and other shimmering blooms. Angkor Wat was built in three great rising squares. A central group of chambers and then long open galleries extend all around each square, with a double square of columns on their outer face. A gallery interspersed with corner towers, pavilions, stairways, and other structures surrounds each terrace. On the highest level, the central tower is tied to axial pavilions by galleries that are supported by pillars, dividing this level into four paved courts. The

towers themselves are without interior windows or staircases and are finished with superb lotus-bud cones.

FIGURE 14.3 Paved causeway at Angkor Wat.
robertharding/Alamy Stock Photo.

Every detail of this extraordinary building reproduces part of the heavenly world in a terrestrial mode (Figure 14.4). The Khmer believed that the world consisted of a central continent known as Jambudvipa, with the cosmic mountain, Meru, rising from its center. The gods lived at the summit of Meru, represented at Angkor Wat by the highest tower. The remaining four towers depict Meru's lesser peaks; the enclosure wall depicts the mountain at the edge of the world, and the surrounding moat depicts the ocean beyond. Angkor Wat was the culminating attempt of the Khmer to reproduce a monument to the Hindu god Vishnu, the preserver of the universe. Angkor Wat, the ultimate achievement of the Khmer state, was a monument to Shiva, the creator;

to Vishnu, the preserver of the universe; and to Brahma, who raised the earth. Everything about Angkor Wat is on a lavish scale, as if expense, time, and labor were of little importance.

FIGURE 14.4 Detail of the frieze of the Apsaras (dancing girls) from Angkor Wat. Mark Poplawski/Alamy Stock Photo.

Angkor Wat's bas-reliefs show Suryavarman seated on a wooden throne wearing an elaborate crown and pectoral. He receives his high officials as they declare their loyalty. Next, the king progresses down a hillside on an elephant accompanied by the high priest and his generals. The court rides with him through a forest, with noble ladies in litters, everyone protected by heavily armed soldiers. Scattered throughout Angkor Wat are scenes of battles and bas-reliefs of celestial maidens. Naked to the waist, slender and sensuous, the dancers wear skirts of rich fabric. Their flowered background, the subtle rhythm of their gestures, their jeweled necklaces and diadems bring to light the delights of paradise promised to the king after his death. Inscriptions also spell out the terrible punishments that awaited ill-doers.

Angkor Wat was constructed using a measurement of 0.435 meters (1.43 feet), a Khmer unit of measurement known as a *hat.* The length and breadth of the central structure of the temple corresponded to 365.37 *hat*, while the axial distances of the great causeway corresponded with the four great eras of Hindu time. Someone standing in front of the western entrance on the spring equinox was able to see the sun rising directly over the central lotus tower. During his lifetime, Suryavarman used Angkor Wat as the place where he, as a divine monarch, communicated with the gods. When he died, his remains were placed in the central tower, so that his soul entered his divine image and made contact with the royal ancestors. Here the immortal ruler became as one with Vishnu, master of the universe.

Angkor Wat was a temple and mausoleum, as well as a giant astronomical observatory. At the western entrance, the sun rises over the central lotus tower on the day of the spring equinox. As the sun moves during the seasons, its rays illuminate the bas-reliefs on the walls of the third gallery. It shines first on the creation in summer, on a bloody battle in autumn, and then leaves the north wall of the gallery in darkness during the dry season; then it illuminates the kingdom of death. Everything about Angkor Wat had profound cosmic and religious symbolism. The grounds of the temple, to judge from recent LiDAR imagery, were divided into square precincts demarcated by roadways, to accommodate the priestly hierarchy and other temple officers. Angkor Wat's temple enclosure was a high density

residential zone within a much broader agricultural landscape. About 3,000–4,500 people are estimated to have dwelt on house mounds within fourth enclosure around the temple.

Jayavarman VII succeeded to the Khmer throne in A.D. 1181 after a period of warfare and political chaos, which resulted in the sack of Angkor. Soldier and devout Buddhist, Jayavarman VII was a prolific monument builder. He built a new capital, Angkor Thom, with a 12.8-kilometer (8-mile) outer wall and a crocodile-filled moat 162 meters (540 feet) across, which symbolized, as always, the mountain range and ocean boundaries of the sacred world. Angkor Thom was an entire city, not just a mausoleum, marking the final stage in the transition from "open" city to rectangular enclosed grid plan city. The urban grid, furthermore, extended beyond the city walls into the surrounding area. Angkor Thom, however, was still laid out according to a sacred design. Inside the enclosure rose a sacred world in stone, its gates guarded by stone representations of epic battles between heavenly and underworld gods over a serpent. The serpent's extended back reaches the central temple mountain, the Bayon (Figure 14.5). The battle represents an ancient myth, in which the gods and demons churned the ocean to extract the liquor of immortality. The cosmic serpent Vasuki was a rope, Mount Meru serving as the churning stick. Great triple-headed elephants protect the flanks of the gates, and four huge Buddha faces adorn the towers above the massive doorways.

A Chinese official named Zhou Daguan visited Angkor as part of a delegation between August 1296 and August 1297. The visitors traveled up the Mekong River and across the Tonle Sap by large, oar-driven boats to Angkor, where they admired the Bayon, "the tower of gold," and the royal palace. Angkor was a cosmopolitan capital with a large market, where precious metals, silks, ceramics, and imports of all kinds could be purchased. Thousands of people lived in or near the royal capital, most of them lowly servants and slaves, who endured harsh lives of unrelenting drudgery. This was a society that was deeply concerned, even obsessed, with grandiose displays and public spectacles (Box 14.2).

Box 14.2 Voices: *Zhou Daguan Visits Angkor*

China traded extensively with the Khmer, trading gold, silver, silk, porcelain, and many other commodities for a variety of tropical products. The Chinese considered the Cambodians "barbarians," but many sailors deserted and settled there, noting with pleasure "that it is not necessary to wear clothes…rice is easily had, women easily persuaded, houses easily run, and trade easily carried on."

Zhou Daguan was a Chinese diplomat who spent nearly a year with an embassy to the Khmer court at Angkor in 1296–1297. His famous *Notes on the Customs of Cambodia*, written soon after his return to China, provides vivid insights into Khmer civilization at its height. He described Angkor Thom as a city with walls 8 kilometers (5 miles) in circumference, forming a perfect square. The "Golden Tower" of the Bayon rose in the center of the vast enclosure, "flanked by more than twenty lesser towers and several hundred stone chambers." He added: "These are the monuments which have caused merchants from overseas to speak so often of 'Cambodia the rich and noble.'"

The embassy visited the royal palace with its long colonnades and open chambers "interlaced in harmonious relation."

> Every time I was admitted to the palace for an audience with the king, he came forward with his chief wife and took his seat in the embrasure of the golden window in the main audience hall. The ladies of the court were drawn up on both sides of the veranda below the window, changing places now and then to get a better look at us.

The elaborate, tile-roofed palace contrasted with the humble, thatched dwellings of commoners, who were forbidden tiles. When high officials appeared in public, their insignia and number of attendants was carefully regulated. Only the most eminent rode in palanquins with golden shafts and four parasols with golden handles.

Khmer life unfolded in a constant series of elaborate festivals. At the New Year, a huge platform was erected in front of the royal palace and decorated with lanterns and flowers. For two weeks, spectacular fireworks displays lit the night sky, each financed by a high official. "The fire crackers, large as swivel-guns, shake the whole city with their explosions." Zhou Daguan comments on how the Cambodians could

rely on three or four rice crops a year, irrigated by the waters of the Tonle Sap, and there were also water buffalo, many forms of vegetables, and an abundance of fish.

Everything at Angkor revolved around the monarch, who only rarely ventured outside the royal precincts. When he did, he was closely protected. He would emerge in solemn procession, preceded by marching soldiers, then “flags, the banners, music.” “Girls of the palace, gaily dressed, with flowers in their hair and tapers in their hands, are massed together in a separate column.” The king’s bodyguard followed them, armed to the teeth, then “chariots drawn by goats and horses, all adorned with gold.” Bearers of sacred parasols marched in front of high nobles mounted on elephants.

> Finally the Sovereign appeared, standing erect on an elephant and holding in his hand the sacred sword. This elephant, his tusks sheathed in gold, was accompanied by bearers of twenty white parasols with golden shafts. All around was a bodyguard of elephants, drawn close together, and still more soldiers for complete protection, marching in close order.

As the King passed, everyone knelt and touched the earth with their foreheads under the close eye of the parade marshals.

The Khmer state maintained a glittering facade and kept order with draconian severity and religious zeal. But the supreme ruler could not appear in public without a major display of force. Writes Zhou Daguan, himself from a despotic state: “These people, though barbarians, know what is due to a prince.”

The Grand Plaza of Angkor Thom was the scene of ceremonies and contests and of vast military reviews. Long bas-reliefs of animals and kings walking in procession above seas of snakes and fish lead to the plaza and look down on its wide spaces. One frieze of elephants extends over 360 meters (1,200 feet) of sculpted wall. The Bayon’s towers bear representations of the Buddha, perhaps multiplying himself miraculously to confuse his enemies (Figure 14.5). Fish carved around the exterior point to the underworld under the oceans, making the Bayon the home of the gods. Each of the fifty towers

of the Bayon may represent a province of Jayavarman's domains. Each bears an image of Jayavarman, who saw himself as a Bodhisattva, the name given to those Buddhists who, approaching nirvana, stayed on earth to encourage and help others. His image looked out serenely to all points of the compass. Sixteen thousand people are estimated to have lived within Angkor Thom's walled enclosure, about 1778 people per square kilometer.

FIGURE 14.5 The Bayon at Angkor Thom in Cambodia, the temple-mortuary of Khmer ruler Jayavarman VII, late twelfth/early thirteenth century A.D. Banana Republic/Adobe Stock.

Jayavarman's building frenzy extended far beyond his capital. He built large reservoirs in and near Angkor, allowing more land to be irrigated. His close relatives received mortuary temples. The king ordered the construction of guest houses and hospitals, the former spaced about 15 kilometers (9 miles) apart on the roads that radiated out from Angkor. One linked Angkor with another large center, Banteay Chmar—225 kilometers (140 miles) northwest—complete with bridges over major waterways.

All Angkor's cities depended on elaborate water management systems to ameliorate the variations in monsoon rainfall and to ensure adequate water to ensure food security. Here, again, LiDAR documents changing urban landscapes. In the earlier days of Khmer kingdoms, the temples and their precincts were surrounded by relatively unstructured, low density settlement inside their moats. This changed dramatically in the eleventh and twelfth centuries, when roads and canals delineated symmetrical rectangular grids that defined city blocks. Each block was a highly structured space of consistent size throughout the city. A lower density urban landscape extended beyond the moats, with local temples serving as nodes in what was becoming an ever larger, more formal city layout. Thus, the cities developed from essentially open settlements into highly structured, high density cityscapes with well-defined nodes centered on temples. By the early twelfth century, the cities relied heavily on enormous agricultural catchments as urban intensification accelerated.

The seasonal nature of monsoon rains presented serious challenges in terms of managing water scarcity. The transition of Angkor of subsistence farmers into a complex state-organized society depended on significant advances in hydraulic engineering, especially in water storage and transport that provided resilience against the uncertainties of a tropical climate. As water management systems became increasingly complex and supported more and more dense urban populations, episodes of system failure were commonplace, which is why the rulers built ever larger reservoirs. The state became increasingly vulnerable to longer-term droughts, for its water system was ultimately unsustainable.

Angkor was one of the largest of all preindustrial cities, and the scale of its institutions in human terms was mind-boggling. One temple dedicated to the king's father contained no fewer than 430 images, with more than 20,000 in gold, silver, bronze, and stone in the wider precincts. An inscription in the Ta Prohm temple nearby, dedicated to the king's mother in the image of the Buddha's mother, records that 306,372 people from 13,500 villages worked for the shrine, consuming 38,000 tons of rice a year. About 14,000–2,000 people dwelt within the house mounded areas of the 68-hectare Ta Prohm enclosure. An inscription in the nearby temple inventories a staff of 18 senior priests, 2,740 minor functionaries, 615 female dancers, and a total of 66,625 "men and women who perform the service of the gods." The same temple owned gold and silver dishes, thousands of pearls, 876 Chinese veils, and

2,387 sets of clothing for its statues. The temple of the king's father contained no fewer than 430 images. A further 20,000 images in gold, silver, bronze, and stone stood in the wider precincts.

A Religious Utopia

All this royal construction was designed to make merit for the king and his followers. He also built fully staffed hospitals and pilgrims' shelters to gain further credit. The result of Jayavarman's building projects was a totally centripetal religious utopia in which every product, every person's labor, and every thought was directed to embellishing the hub of the universe and the kings who enjoyed it. All these resources came from a flow of wealth toward the center, amassed by taxes on produce and manufactured goods. Moreover, the people raised defensive walls, built temples, and dug reservoirs as tax obligations to the state; the central court, not outlying centers, supervised all taxation. Everything was done in the service of the gods and the king, who was at the apex of Khmer society. He was served by his own relatives and other aristocratic families, who lived under an elaborate system of royal patronage and badges of rank—defined by the styles of litters and the staffs of umbrellas. Succession to important offices such as the chief priesthood was often hereditary. This small circle of high nobles controlled land ownership and tribute assignments from the provinces, sometimes making dozens of villages vassals to major temples to obtain food and labor. Standing armies and navies maintained security and subdued regional unrest. Elephants were a major strategic force in Khmer wars with their neighbors.

All labor, all material goods, flowed toward the center, to benefit those at the hub of civilization. Angkor itself was the center of a court society that strove to achieve material and spiritual perfection. Successive kings built great buildings; controlled water supplies through their vast reservoirs, which overcame the uncertainties of rainfall; and organized thousands of people to ensure the continuation of the perfection of the *mandala*, or kingdom, the sacred territorial circle.

The impression of prosperity and stability was illusory in a society where the ruler's power depended on the granting of favors, on his successful patronizing of the major aristocratic families. There was no stable bureaucracy with appointed officials to run the state. The king mediated with the gods for rain, settled disputes, and used the rich resources of the land to

redistribute wealth among his subjects. He sat at the center of the circle represented by the kingdom, its boundaries defined only by the loyalties of the aristocrats who ruled the outlying provinces. A Khmer king's hold on the reins of power depended on the control of the center, the Angkor. Thus, when the central administration was weak, the kingdom tended to break up into regional components.

COLLAPSE

By Jayavarman VII's death, Buddhism had gained a strong foothold, but religious dissension became common until Theravada, a form of low Buddhism preaching equality, became popular. Theravada did not mess with traditional ideas of kingship, but building activity slowed. By his day, Angkor was in trouble. For centuries, its water engineers had made significant advances in hydraulic engineering, especially in water storage and transport that provided resilience against the uncertainties of a tropical climate. However, as water management systems became increasingly complex and supported more and more dense urban populations, episodes of system failure were commonplace, which is why the rulers built ever larger reservoirs. Surveys of canals, reservoirs, and other water works show that the Angkor authorities modified local systems to meet short-term challenges. But these measures were insufficient in the face of growing environmental challenges, especially climate change. Angkor had become enmeshed in a vast infrastructure that was both resistant to change, riddled with inertia, and ineffective in the face of prolonged droughts.

Irregular monsoons had always been a reality, but the expanding infrastructure was ill-equipped to face droughts, revealed by core boring into the West Baray at Angkor Wat and by tree-rings from cypress forests in southern Vietnam. The reservoir cores reveal a serious drought during the early thirteenth century, and an extended one during the fourteenth and fifteenth. The Vietnamese cypresses document a weakened monsoon season and drought from the 1330s to 1360s, with a shorter, more severe drought from 1400 to the 1420s. There are signs that people rebuilt canals and rerouted them to cope with water shortages. But the tree-ring studies also document unusually intense rainy seasons following droughts, which may have devastated canals and barays with silt build up and clogging. In some places, sudden erosion cut canals as much as 8 meters (26 feet) below the

surrounding landscape, destabilizing the hydraulic system. The result may have been a cascading failure that undermined Angkor's elaborate civilization.

The climatic shifts may have weakened the state at a time of endemic warfare and major changes in the wider Asian world. The Thai sacked Angkor after a long siege in 1430–1431. By this time, in fact from late in the thirteenth century, the strategic trade routes through the Malay Straits had come under Islamic control in a new chapter of international trade. Melaka became an important port and stronghold on the northern shore of the straits. The rest of the kingdoms and ports of the islands soon adopted the new religion, which preached a message of religious egalitarianism in the face of centuries of Indian statecraft based on notions of divine kingship. Within three centuries, the rulers of inland Java had adopted Islam, perhaps to maintain control over their subjects, who were welcoming the new beliefs with open arms. Islam and trade went hand in hand in island Southeast Asia, until the arrival of Portuguese gun-bearing sailing ships at Melaka in 1519. The center of gravity of economic and political power had shifted toward the coast, where maritime trade was booming, perhaps making it attractive for the elite to move downstream to what is now Phnom Penh and its flourishing coastal trade networks.

The Khmer state is a classic example of how a combination of cultural processes and able individuals can lead to the appearance of powerful, yet volatile states. Yet these same states face constantly the problem of controlling not only the center but the periphery, especially in times of weak rule, environmental stress, and menacing competition from outside.

Summary

The origins of civilization in Southeast Asia had both indigenous and foreign roots. During the first millennium B.C., powerful chiefdoms arose among rice-farming groups in areas like Vietnam's Red River Valley, where the Dong Son culture flourished. About the time of Christ, Indian merchants brought Hindu and Buddhist beliefs to Southeast Asia, while Chinese armies conquered the Red River region. The Southeast Asian state was based on Indian notions of statecraft and was cast in the model of the *mandala*, a sacred circle. During the first millennium A.D. kingdoms ebbed and flowed in

the Mekong Delta and then inland in the Tonle Sap region of Cambodia. None of these states achieved any long-term stability, but they culminated in the state founded by King Jayavarman II in the late eighth and ninth centuries A.D. Jayavarman carved out a large kingdom by conquering his neighbors, and he established new philosophies of divine kingship, which endured for five centuries. Political power in the Khmer state was vested in the person of the divine king, who governed by force; by judicious use of patronage; and by using his status as a god to acquire tribute, control ownership of the land, and collect taxes in goods and labor. The symbol of royal power was the mortuary temple—sites like Angkor Wat, which were built as symbolic replicas of the Hindu world. Southeast Asian kingdoms and states were flexible forms of state without fixed boundaries, which were centripetal and rarely able to achieve long-term political stability. Islam spread widely in the Southeast Asian islands in the centuries before Portuguese contact in 1519.

CHAPTER 15

Kingdoms and Empires in East Asia (770 B.C.–A.D. 700)

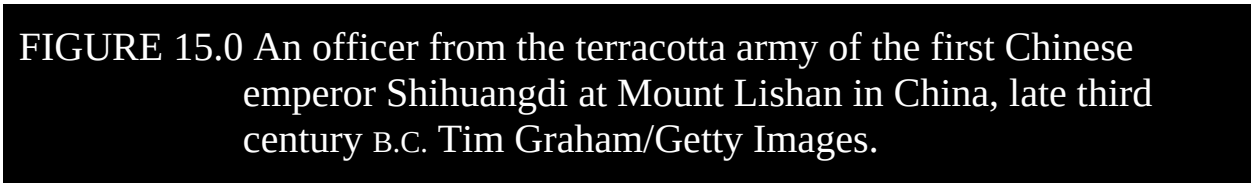


FIGURE 15.0 An officer from the terracotta army of the first Chinese emperor Shihuangdi at Mount Lishan in China, late third century B.C. Tim Graham/Getty Images.

“A fast horse and a slow horse set out together on the 3,000-li (900-kilometer or 563-mile) journey from Changan to Qi. The first day the fast horse travels 193 li, thereafter increasing its speed by 13 li each day. The slow horse covers 97 li on the first day, thereafter, reducing its speed by 0.5 li each day. After reaching Qi the fast horse starts its return journey and meets the slow horse. When does the meeting take place and how fast has each horse traveled?” The teacher sat cross-legged on the dais, looking down as his pupils struggled with the problem. Their heads were bent in concentration as they plied their ink-charged brushes and made rapid calculations on thin wooden boards. It was hard work but essential, for these young men would soon be candidates in the great state-run examinations. If they failed, they would return to their homes to make their own way in a family business or as a local town scribe. If they succeeded, the door would be open to high office in the Han Empire and a chance to play their part in governing its 58 million inhabitants.

CHAPTER OUTLINE

Society Transformed: The Eastern Zhou Period (770–221 B.C.)
- *Urbanism*
- *Ironworking*
- *Coinage and Commerce*
- *Warring States*

The First Chinese Empire (221–206 B.C.)
- *Qin Shihuangdi (221–210 B.C.)*
- *The Qin Empire*

The Han Empire (206 B.C.–A.D. 220)
- *Aristocratic Burials*
- *The Imperial Tombs*
- *Changing Fashions*
- *Economy and Government*
- *The Northern Frontier*
- *Han Expansion into Southern China and Korea*
- *The Fall of Han China*

Secondary States: Korea and Japan
- *Korea* (A.D. *220–700)*
- *Japan* (A.D. *250–700)*

The Han empire, which created the elaborate bureaucratic system described above, was the culmination of developments that extended over several centuries. The demise of the Shang state in 1046 B.C. was followed by the so-called Western Zhou period (1046–771 B.C.) when central control at first remained strong, and the Zhou dynasty dominated a cluster of subject kingdoms (see Chapter 6). As the Western Zhou period progressed, however, the subject kingdoms freed themselves from central authority, and in 771 B.C. a major barbarian invasion overthrew the royal house. The ensuing Eastern Zhou period (770–221 B.C.) saw revolutionary developments in Chinese civilization, the rise of large and populous independent kingdoms, the development of ironworking technology, and an upsurge of commerce coupled with the invention of coinage. There was also warfare on an

unprecedented scale, so endemic that the second part of the Eastern Zhou period is known as the Warring States period (458–221 B.C.). It ended with the unification of China under the ruler of the state of Qin, who became known as *Shihuangdi*, "First Emperor." The Han empire was founded some fifteen years later. We begin this chapter by discussing the radical changes in Chinese society and economy during the Eastern Zhou period before describing the monuments of Shihuangdi, notably his famous terracotta regiment. The Han empire that followed was itself divided into two phases: Western Han (206 B.C.–A.D. 8) and Eastern Han (A.D. 25–220). We end with an analysis of the formation of early states in Korea and Japan during the fifth to seventh centuries A.D.

SOCIETY TRANSFORMED: THE EASTERN ZHOU PERIOD (770–221 B.C.)

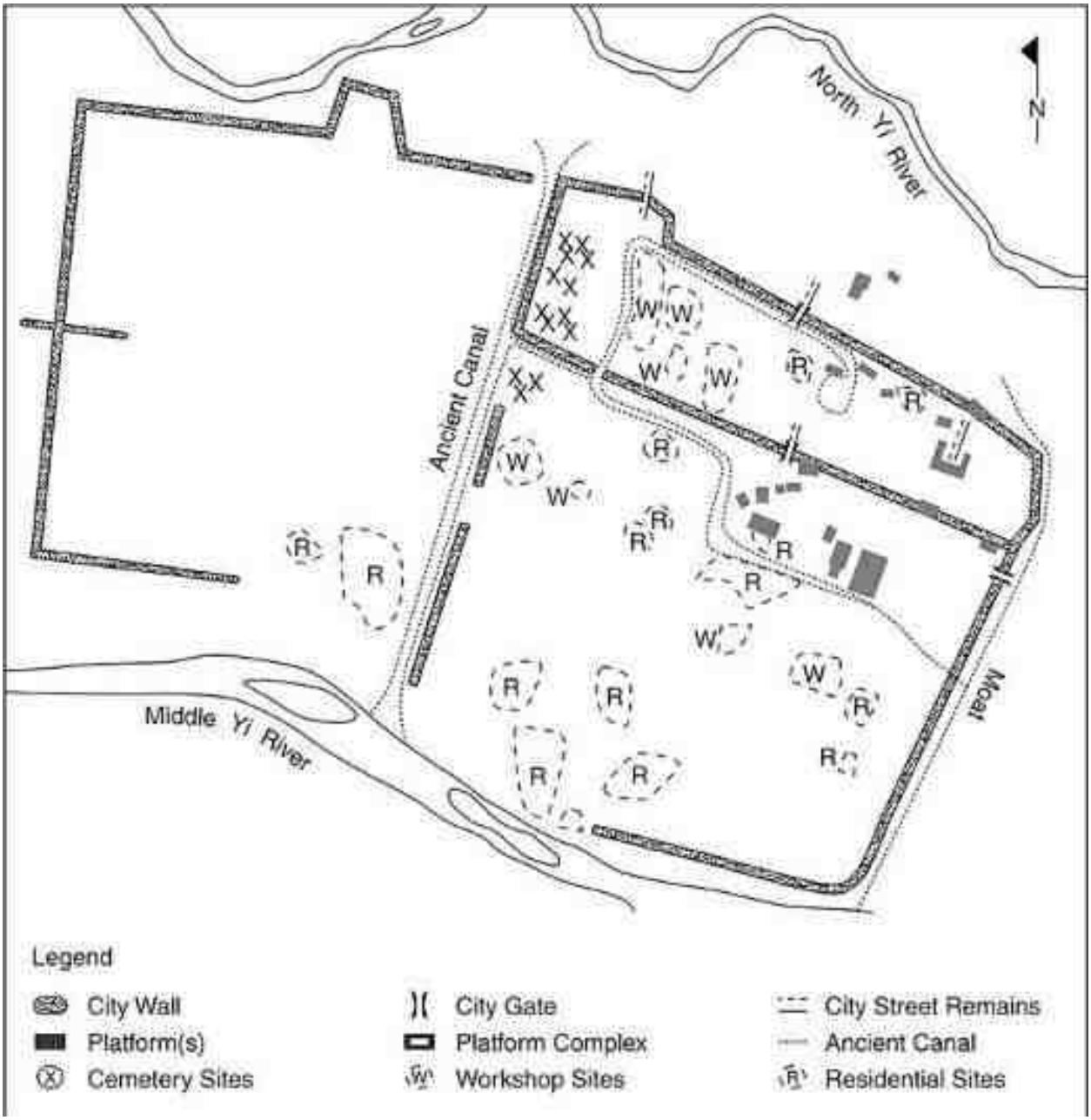
Urbanism

We saw in Chapter 6 how urban centers first developed in China during the Shang period (c. 1800–1046 B.C.).

Hundreds of Eastern Zhou cities are known from historical texts, but relatively few have been studied archaeologically. In the eighth century B.C., cities covered large areas—confined within *hang tu* defensive walls—but had relatively few inhabitants. Residential occupation was usually limited to particular sectors, with cemeteries in others, and there was little pressure on space. Three centuries later, as both texts and archaeology show, cities had become densely built-up, with tens or even hundreds of thousands of inhabitants. The largest, Yanxiadu, may have housed as many as 316,000 people. Furthermore, the cities themselves were larger than those of the Western Zhou period. State capitals such as Yanxiadu and Handan covered around 20 square kilometers (7.5 square miles), twice the size of the largest Western Zhou cities, and were much more densely built within their walls (see Figure 15.1). State capitals were the seats of the dynasties who ruled the Eastern Zhou kingdoms. These ruling elites lived in palace areas either within or alongside the cities. The palaces themselves are marked archaeologically by rammed-earth platforms on which the buildings were constructed. The idea of a separate royal city, surrounded by its own wall, was no doubt a

device to keep the ruling elite apart from the urban populace as a whole. It enhanced the impression of social distance and mystique. Smaller centers too had their palace areas. One of the palaces at Longwan (another Chu site) had a thick rammed earth foundation and covered an area of 2 acres.

FIGURE 15.1 Plan of the Eastern Zhou city of Yanxiadu.



Eastern Zhou cities were also important centers of both commerce and manufacturing. From the fifth century B.C., iron foundries were both large and numerous. The cities, with their major markets, may well have supplied the surrounding populations with iron tools for farming. There were also mints for coinage in some cities and workshops for jade and bone. These, then, were true cities: substantial concentrations of population and commercial, manufacturing, and political centers, linked with the surrounding countryside in a relationship of mutual interdependence.

Ironworking

Just when the Chinese first began to smelt iron is open to some doubt. Meteoric iron was being worked in the middle Shang period, and bronze weapons with iron blades have been found in eighth-century elite tombs. By 500 B.C. ironworking was well established and it replaced bronze for weapons and tools during the Warring States period (481–221 B.C.).

Ironworking developed several centuries later in China than in Western Asia or the Mediterranean, but there is no reason to suggest that knowledge of the metal spread from one region to the other. Chinese metallurgists had already for some time been producing bronze objects with a high iron content. Furthermore, Chinese ironworkers used very different techniques for working the metal than their Western counterparts. In the West, iron was smelted without added carbon, giving a spongy "bloom," which was then shaped by repeated hammering and heating (the process known as *forging*). In contrast, the Chinese added extra carbon, in the form of charcoal, to the iron during smelting. This lowered the melting point of the iron and yielded not spongy bloom but molten ore, which is suitable for casting in the same way as bronze. Within a couple of centuries, Chinese metalworkers had discovered ways of regulating the amount of carbon taken up by the iron and were able to produce a form of mild steel, far superior to anything available in the West until the late Middle Ages.

Iron is a cheaper and more abundant metal than bronze, and the ability to cast it made it possible for Chinese metalworkers to mass-produce iron farming tools. This in turn allowed competing Eastern Zhou states to invest in agricultural expansion as they sought to increase farming yields and population size, and create ever larger armies. Centers for the mass production of iron were set up in many of the state capitals, and the state-

controlled production of iron was an important feature of political and economic strategy among the warring kingdoms. The northern kingdom of Yan was an especially prolific producer of iron tools and weapons. Large numbers of iron tools, weapons, and other objects have been discovered at its capital. Bronze continued to be used for ritual and decorative items, however, including impressive sets of bells. The major copper mine at Tonglushan in east-central China, complete with wooden shuttering and pit props for shafts and galleries, founded during the Shang period, continued in use during the first millennium B.C. Mining and production centers such as these are evidence of the increasing importance of the metal industry in China during the late first millennium B.C.

Coinage and Commerce

Coins may first have been in China in the seventh and sixth centuries B.C. By 400 B.C. most Eastern Zhou kingdoms were minting their own. The shapes of the earliest coins provide a hint of their ancestry: Those of central China were shaped like knives, while the coins of the Shandong peninsula in the east took the form of miniature spades. Both were made of bronze and were intended for relatively utilitarian transactions (unlike the earliest coinages of Western Asia and the Mediterranean, of about the same period, which were made of gold and silver and could not have been intended for everyday use). Spade and knife coins were cast rather than struck, and each carried an inscription that recorded the name of the state and the city that produced it. The circular coin with a square, central hole for stringing on a cord appeared at the very end of the Eastern Zhou period (see Figure 15.2). This was the form chosen by the state of Qin, whose ruler unified China and became the first emperor in 221 B.C. The Qin emperor made the circular coin the standard type throughout the whole of China, and so it remained up to recent times.

FIGURE 15.2 Chinese circular coins, which became the standard type when the country was unified under the state of Qin (221 B.C.). The coins shown here were issued by the later Song Dynasty (A.D. 960–1279). Lou-Foto/Alamy Stock Photo.

Warring States

The invention of coinage in China must have stimulated trade and commerce, removing the need for barter. Just as important, it made it easier for the rulers to gather revenues from their kingdoms.

By the end of the Western Zhou period in 771 B.C., when the Zhou rulers moved their capital from Qishan to Luoyang, their authority as overlords of their domains was little more than nominal. Instead, real power was in the hands of more than sixty separate states, small and large, many of them grouped into alliances. Hardly surprisingly, the history of the following five centuries was one of warfare and annexation. At first, in the so-called Chunqiu (Spring and Autumn) period (770–458 B.C.), the wars were relatively small scale. Particular prestige attached to the number of chariots each side could field.

The nature of warfare changed significantly in the Zhan'guo (Warring States) period (481–221 B.C.). The wars of the Spring and Autumn period had already reduced the number of independent kingdoms to twenty-two. By the fifth century B.C., the effects of population growth and mass-produced iron weaponry had given wars a very different character. Armies now numbered hundreds of thousands, with massive numbers of casualties recorded in set-piece battles. Warfare was endemic, and a huge consumer of life and

resources. Between the late sixth century and the early third century B.C. not a year went by without at least one major war between two of the states. Chariots were largely abandoned as weapons of war in favor of cavalry and massed squadrons of infantry. Iron swords came into use, sometimes with fine jade fittings for the pommel. One of the most interesting military innovations was the crossbow, a Chinese invention, capable of propelling an arrow with much greater speed and force than an ordinary bow. It was invented in the Spring and Autumn period, and by the fourth century B.C., it was in widespread use throughout China.

The crossbow was particularly suitable for defending the walled cities of the period. Walls were also built between the separate kingdoms to protect them from one another or from the horse-riding nomads on their northern frontier. These were later linked together and extended to form the famous "Great Wall." Some of these interstate walls ran for 300 or 400 kilometers across the landscape. They represented an enormous investment of resources and are eloquent testimony to the centralized organization of Eastern Zhou states. They not only protected, but also controlled movement, and tolls were levied at gates. The Wei kingdom built its wall of sun-dried brick; the Qi built partly in stone; most others were of rammed earth. Whatever the material, they provide stunning confirmation of the effective bureaucracies of the various kingdoms.

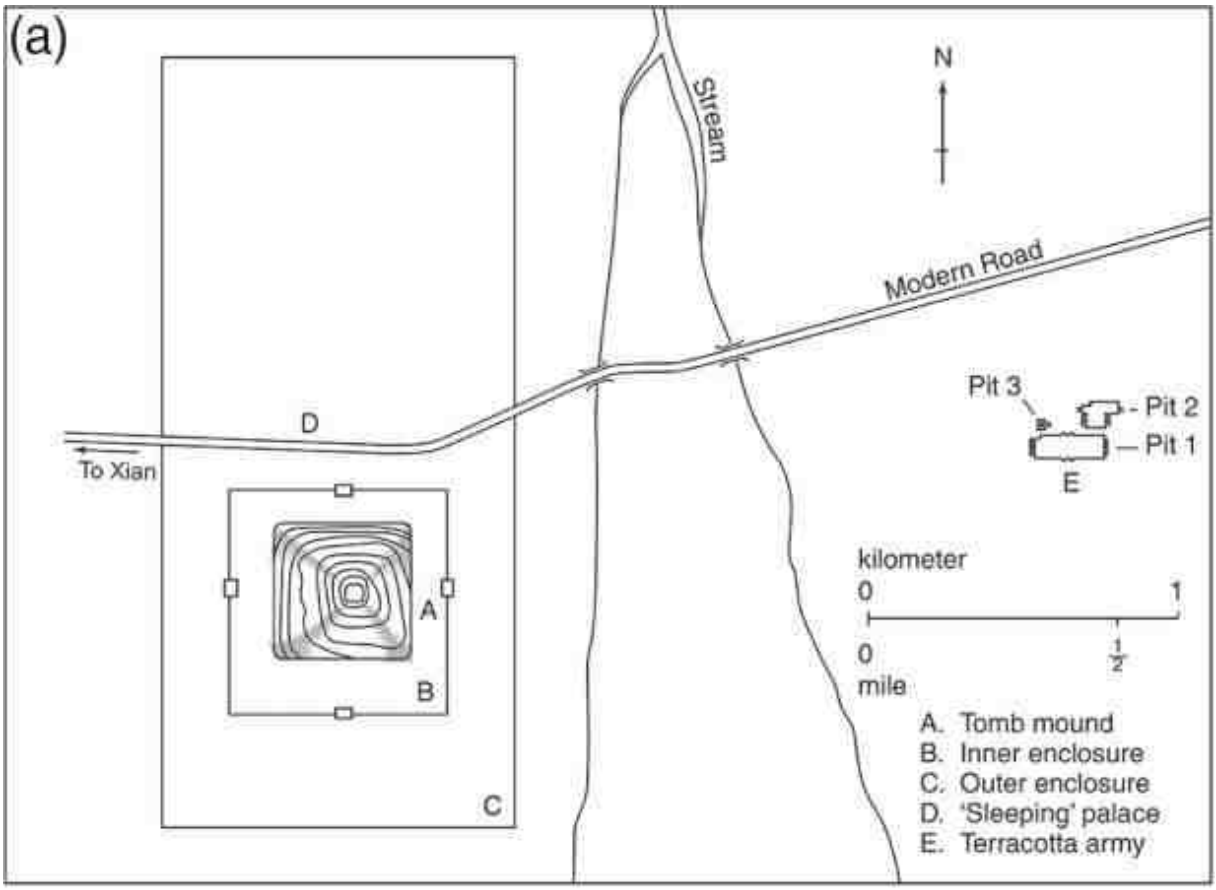
Even these elaborate precautions failed to protect the states that built them. By 300 B.C., only seven major kingdoms survived: Qin, Qi, Zhao, Wei, Hann, Yan, and Chu, plus the tiny state of Zhou, which still held nominal suzerainty over the rest. Relentless competition and ever-tightening bureaucratic control had turned them into gigantic killing machines. In 260 B.C. the ruler of Qin defeated his greatest rival, Zhao, slaughtering 400,000 prisoners in the process. The next ruler of Qin then went on to complete the conquest not only of Zhao but also of Zhou, Wei, Hann, Yan, Qi, and Chu. Having brought all these lands under his sole rule, in 221 B.C. he officially proclaimed himself *Qin Shihuangdi*, "First Emperor" of a united China.

THE FIRST CHINESE EMPIRE (221–206 B.C.)

Qin Shihuangdi (221–210 B.C.)

An enormous burial mound, over 50 meters (164 feet) high, rises amid fields of irrigated cereals and vegetables some 40 kilometers (25 miles) east of Xian, the modern capital of Shaanxi province. Around its base run two huge rectangular enclosures, one inside the other, enclosing an area of 2 square kilometers (0.75 square miles). Beneath it was the underground palace of the emperor, his residence for the afterlife, in a massive pit 30–40 meters below ground level. To the north of the mound was a small temple in which offerings of food and wine were made to the emperor, and to the west were buried two miniature bronze chariots to carry him on his afterlife journeys throughout his domains. Between outer and inner walls were buildings to house the servants, officials, and ritual specialists, whose duty was to tend the grave of the dead ruler. There was also a stable block with horse skeletons and pottery figures of their attendants, and a vast storeroom containing suits of stone armor. Beyond the outer enclosure lay a miniature underground pleasure park with a short length of artificial river, wildfowl cast in bronze crowded along its narrow banks. Legend has it that 700,000 convicts were conscripted to complete the burial complex and that the artisans who designed and built the chamber within the mound were killed to conceal its secrets. Despite this precaution, news leaked out of a fabulous tomb chamber, equipped with rivers of flowing mercury and booby-trapped crossbows to deter any would-be pillager. It was probably the greatest tomb ever built in China, and it has never been fully excavated (see Figure 15.3).

FIGURE 15.3 The tomb of Qin Shihuangdi, first emperor of China. (a) Plan of the tomb complex. (b) View of excavations in Pit 1 and ranks of terracotta soldiers. Dennis Cox/The LIFE Images Collection/Getty Images. (c) Plan of Pit 2, containing war chariots, cavalry, and crossbowmen (Lin and Li 2018).


(a)
N
Stream
Modern Road
D
To Xian
Pit 3
Pit 2
Pit 1
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kilometer
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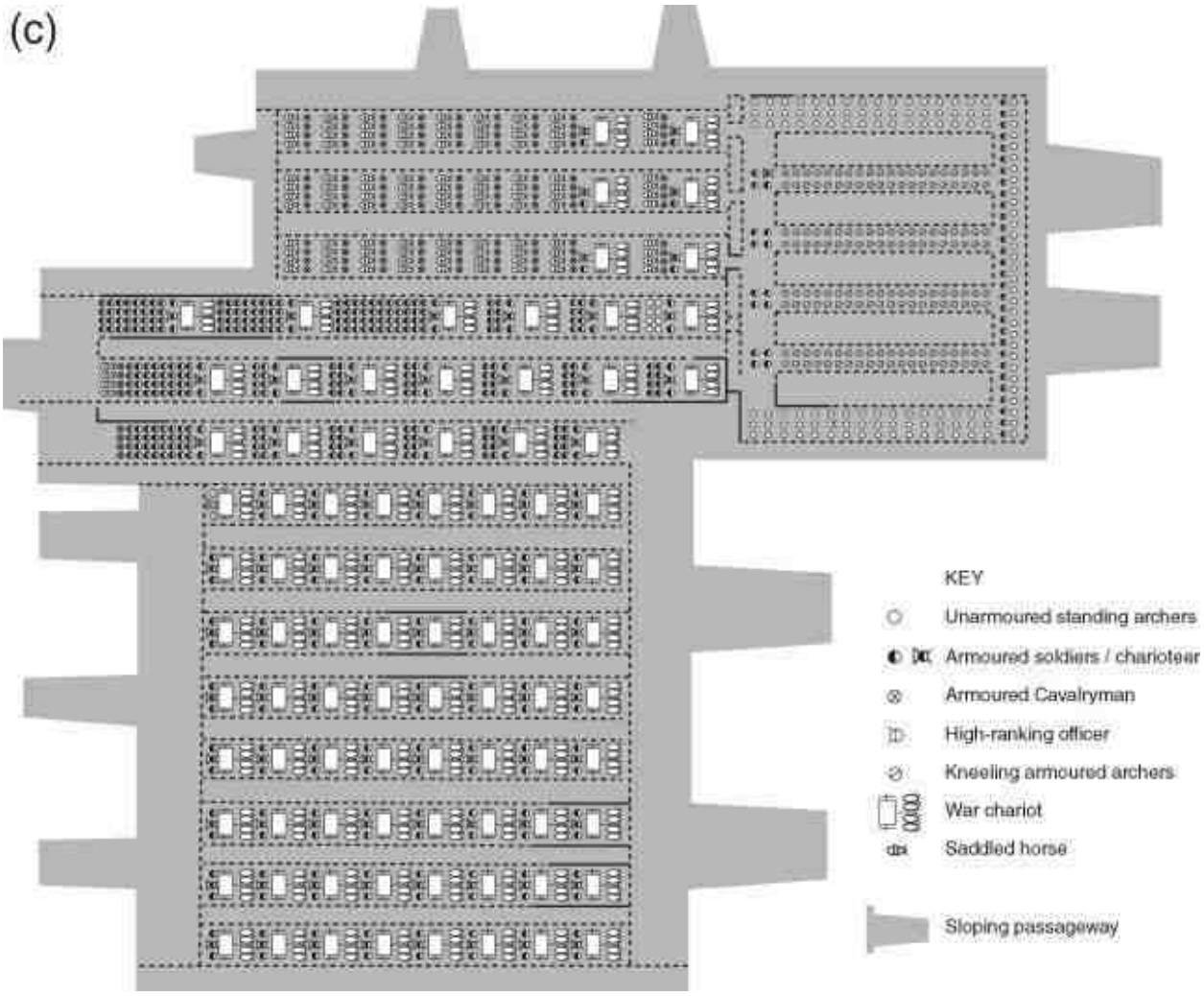
A. Tomb mound
B. Inner enclosure
C. Outer enclosure
D. 'Sleeping' palace
E. Terracotta army

(b)



This tomb is the resting place of Shihuangdi, First Emperor of China. It was begun in 221 B.C., shortly after his victory over the last of the rival Warring States, and was completed by his son and successor after Shihuangdi's death in 210 B.C. It was this successor who decided to kill the artisans who might divulge details of the tomb's security features. We know of these features through the writings of later Chinese historians. Long regarded as fanciful, they gained credibility in 1974 when direct evidence of Shihuangdi's burial arrangements came to light in the form of vast pottery regiments. Four huge pits had been dug to the east of the tomb enclosure, facing any danger that might approach from that side. The largest (Pit 1) contained 3,210 life-size terracotta statues of Qin soldiers, discovered when the local people were digging wells in the vicinity. The pit itself measures 210 × 60 meters (689 × 197 feet). The soldiers are arranged in eleven marching columns, standing four abreast. Some are depicted wearing armor

of bronze or iron plates, and all originally carried long spears with bronze spearheads, though these have now gone, looted by rebels in 206 B.C.

This first pit was astonishing enough, but more were to follow. In 1976 Chinese archaeologists discovered a second, smaller pit, containing 1,400 terracotta figures of men and horses. If Pit 1 represented an infantry unit, then here were the cavalry and chariots that accompanied them, including a division of kneeling crossbowmen. A third pit, found in 1977, contained a command and control unit: the commander-in-chief in his war chariot, surrounded by sixty-four officers and bodyguards, the latter clearly selected for their height (1.9 meters, or 6 feet, 2 inches).

The production of the tomb figures was a tightly organized process. Each figure was made from local clay, fashioned from the ground up (legs, body, head) with details of armor and facial features added by hand. Each was stamped or carved with its maker's name. The bronze weaponry (spears, halberds, crossbows) with which the figures were finally equipped was mass produced, and once again inscriptions and other marks enable the organization of the work to be followed in some detail.

The pottery regiment was evidently intended to provide ritual protection for the dead emperor. It has echoes of earlier times, when soldiers themselves were sacrificed and placed in the graves—in the Xibeigang tombs at Anyang, for example (see Chapter 6)—although not in these numbers. For archaeologists today, it provides striking evidence of the power of Qin Shihuangdi and also illustrates in vivid detail the nature, equipment, and organization of the army that gave the Qin dynasty its victory over rival states.

The Qin Empire

The success of Shihuangdi was based on his formidable and battle-hardened army and also on his bureaucratic and administrative reforms. Earlier rulers had allowed conquered territories to survive under subject lords, in a feudal arrangement. Shihuangdi broke with this tradition by dividing the kingdoms into provinces of roughly equal size and appointing governors answerable to himself to rule over them. This created a centralized imperial administration. In newly conquered territories the administrative centers of the new provinces were known as *commanderies.*

Shihuangdi reinforced the power of central government by ordering the destruction of books of a political nature and all histories except those relating to his own forebears, the rulers of Qin. His intention was to suppress rival histories and establish a new, unified state ideology. He not only dismembered the former kingdoms and divided them into provinces but also suppressed the very memory of their separate pasts. The Mexican ruler Tlacaelel followed a similar policy seventeen centuries later when establishing the Aztec empire, suppressing rival histories to create a new myth of Aztec dominance (see Chapter 19).

The emperor consolidated his domains by an ambitious road-building program. Five trunk roads led from the imperial capital at Xianyang, each provided with police forces and posting stations. Most of these roads were of rammed-earth construction and were 15 meters (50 feet) wide. The longest ran southwest over 7,500 kilometers (4,500 miles) to the frontier region of Yunnan. So precipitous was the countryside that sections of the road had to be built out from vertical cliff faces on projecting timber galleries. Despite these efforts, parts of southern China remained beyond imperial control until the Eastern Han period (first century A.D.).

In the north, the threat of nomad incursions from the steppes was met by the building of the Great Wall. This was not the stone structure known from tourist photographs today; those well-known stretches of the Great Wall date only from the sixteenth century A.D. and were built to defend Beijing from the Manchurians. Shihuangdi's Great Wall was at one and the same time both more and less impressive—less impressive in its construction, which was mainly of traditional rammed earth or sun-dried brick, but much more impressive in its enormous length. It stretched for over 4,000 kilometers (2,500 miles) across hill and plain, from the boundaries of Korea in the east to the troublesome Ordos Desert in the west. It was an enormous logistical undertaking, though for much of its course it incorporated lengths of earlier walls built by the separate Chinese kingdoms to defend their northern frontiers in the fourth and third centuries B.C.

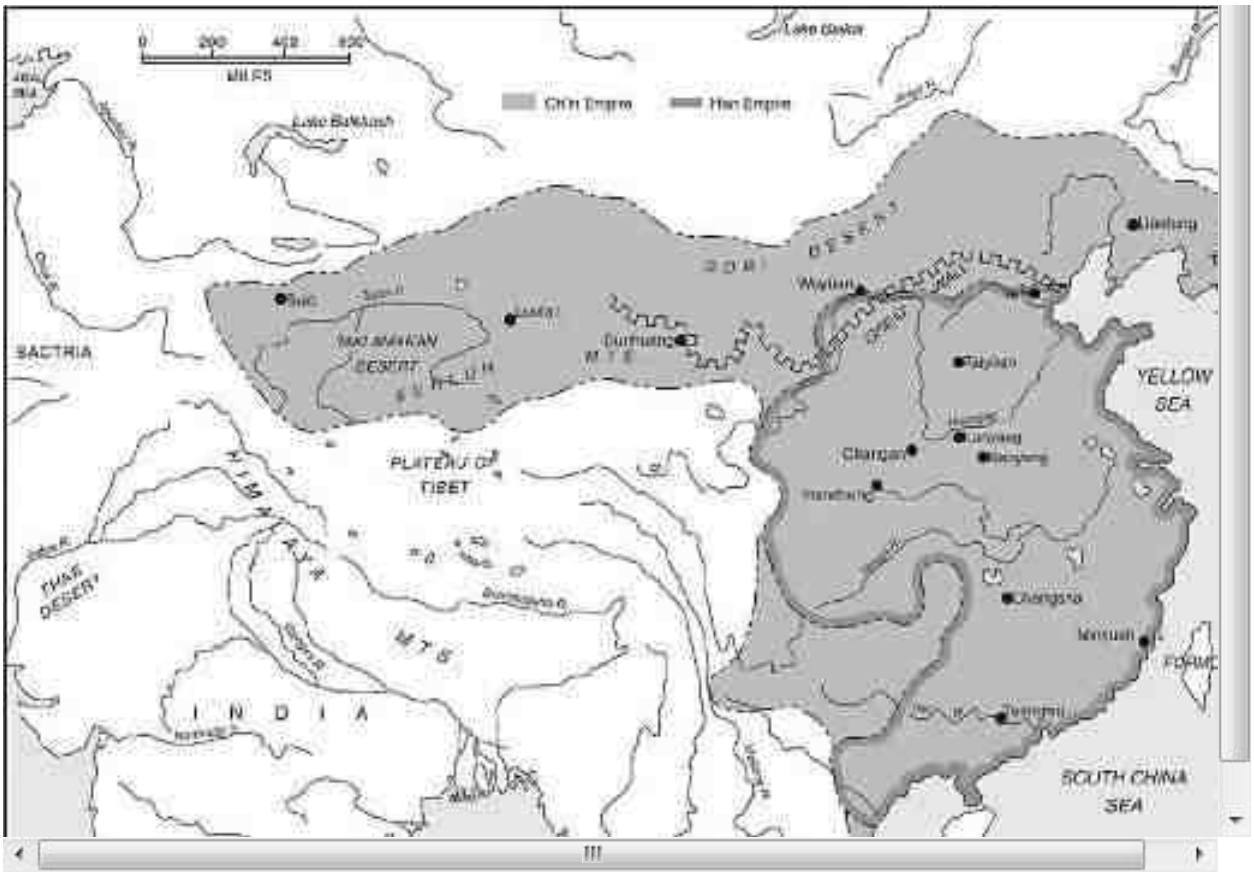
We have dwelt at some length on the achievements of the First Emperor of China since they demonstrate graphically the centralization of power he achieved through ruthless and sometimes paranoid rule. History remembers Shihuangdi as a superstitious tyrant, and the dynasty did not long survive his death in 210 B.C. In 206 B.C. the imperial capital, Xianyang, was sacked by a

rebel army, and a new dynasty, the Han, took control. They were to rule China for over four centuries.

THE HAN EMPIRE (206 B.C.–A.D. 220)

The rulers of the Han dynasty took over the government machinery and infrastructure established by Shihuangdi (Figure 15.4). The empire was ruled primarily through "commanderies," under the direct control of the imperial administration. These had first come into existence in the Warring States period, as one of the organizational changes designed for the efficient governance of centralized polities, for whom local tax revenues and labor conscription were all-important. In the second century B.C. there were 103 commanderies, which were further subdivided into 1,314 "counties." At the beginning of the Han empire, however, many eastern parts of China were governed as small subject "kingdoms," entrusted to members of the Han royal family. We know about these rulers from the lavish burials accorded to the subject kings and their entourages.

FIGURE 15.4 Map of the Qin and Han empires. The gray line illustrates the limits of the Qin empire; the shaded area shows the Han empire at its greatest extent.



Aristocratic Burials

The tombs of the regional kings were cut deep into cliffs or hillsides. One of the most famous is the tomb of Liu Sheng, King of Zhongshan (died 113 B.C.), at Mancheng in northeastern China. This consisted of an entrance ramp leading to chambers cut more than 50 meters (170 feet) deep into the solid rock of a hillside. The passage was closed by a door of cast iron, which had been poured in situ. Behind it, side galleries held suites of chariots and other equipment. Beyond them lay the main chamber, large enough to accommodate a timber-built palace hall with tiled roof. Deeper still within the mountain, behind a white marble door, was the burial chamber itself. When Chinese archaeologists at last penetrated this far in 1968, they were met by a fantastic sight: the burial suit of Liu Sheng himself, made of 2,498 wafer-thin pieces of jade sewn together with gold thread (Figure 15.5a). Burial suits such as this are thought to have been specially made in an imperial workshop at the Han capital Changan, and distributed to regional kings as imperial

gifts. Liu Sheng’s wife, Dou Wan, clothed in a similar jade burial suit, was found in a second rock-cut tomb nearby.

FIGURE 15.5A Jade burial suit of Liu Shen, King of Zhonghshan (died 113 B.C.), from his rock-cut chamber tomb at Mancheng, southeast of Beijing. Such burial suits are thought to have been manufactured in imperial Han workshops at Changan, the imperial capital, and were gifts from the Han emperor to subordinate rulers such as Liu Shen. China Photos/Stringer/Getty Images.

Another elaborate tomb has been found at Beidongshan near Xuzhou in eastern China. This, too, was dug into a hillside, but in architectural terms it was considerably grander than the tomb at Mancheng, though its contents had been looted in antiquity. To one side of the long passage that led to the burial chamber was a reception complex, comprising a kitchen, storerooms, an ice cellar, a lavatory, a well, and a hall for music and dancing. These were finely built of cut stones and covered by a roof of stone slabs, which still preserve

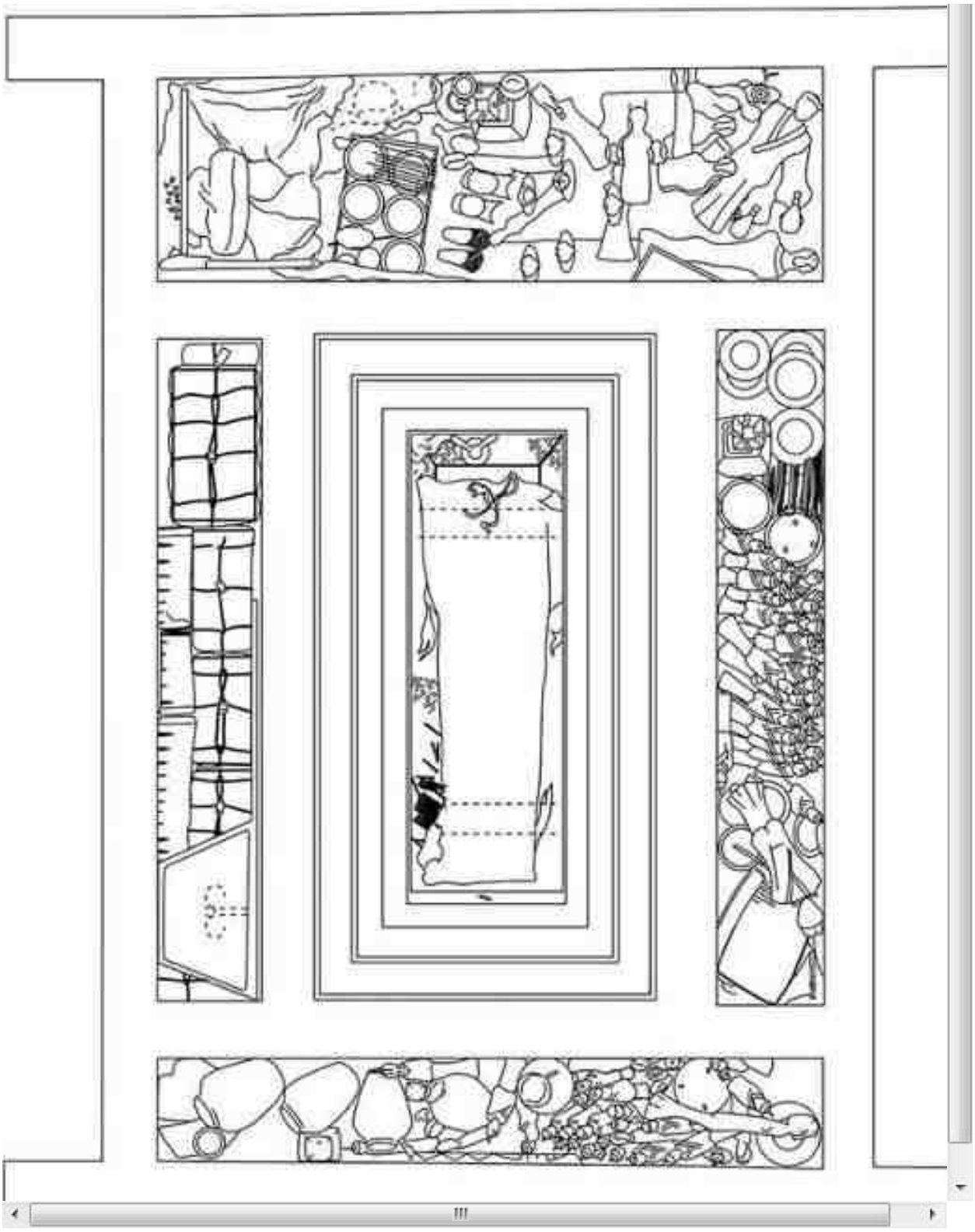
traces of the painted numerals that indicated how they were to be placed in position. At the far end of the passage was the burial place of the prince, a small group of chambers entirely painted with cinnabar, in accordance with ritual precepts of the period. Still more remarkable was the discovery in Xuzhou itself, 10 kilometers (6 miles) south of the tomb, of a pit containing over 500 miniature pottery warriors. This discovery shows that not only members of the imperial family were provided with pottery armies to protect them after death.

Still another tomb at Xuzhou has been identified as that of Liu Wu, third king of Chu, who died in 170 B.C. Here again the tomb was tunneled deep inside the mountain, but in this case the burial furnishings survived. They included a shroud of 4,000 wafer-thin jade plaques and a gold-decorated belt, the latter perhaps a gift from the nomadic peoples far away on China's northern frontier.

Below the level of the regional kings in the social order were the high officials who occupied important offices of state. In 1971 Chinese archaeologists discovered the tomb of one of these high officials, Li Cang, Marquis of Dai and chancellor of the Changsha kingdom, who died in 186 B.C. together with the even better-preserved burial of his wife. These tombs provide vivid evidence of the luxury of courtly life during the early Han period (see Figure 15.5b).

FIGURE 15.5B Plan of the Mawangdui tomb. When Chinese archaeologists opened Tomb 1 at Mawangdui in central southern China, they came upon one of the best-preserved Han tombs ever discovered. Documents show that it was the resting place of Xin Xhui, the wife of Li Cang, Marquis of Dai, and chancellor of the kingdom of Changsha, who died around 180 B.C. The wooden burial chamber had been sealed in by layers of charcoal and white clay and was almost perfectly preserved; the flesh of the woman's body was still soft to the touch. She had died around age fifty from a heart attack brought on by acute pain from gallstones. In small compartments around the main burial chamber, archaeologists found hundreds of priceless luxury artifacts, including decorated silks, lacquerware trays and

food bowls, cosmetic equipment, and tiny wooden figures playing musical instruments. One of the finest items was a T-shaped silk banner, painted with sun and moon and mythological scenes.



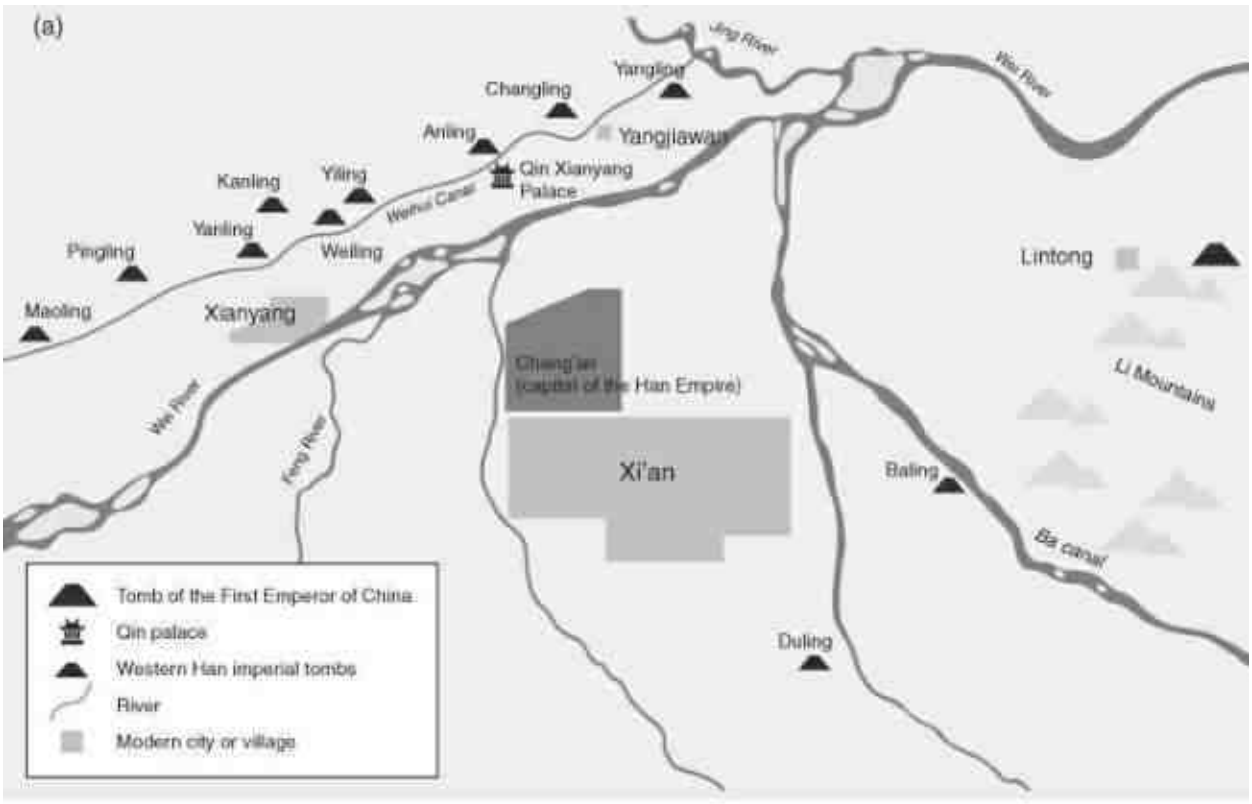
The Imperial Tombs

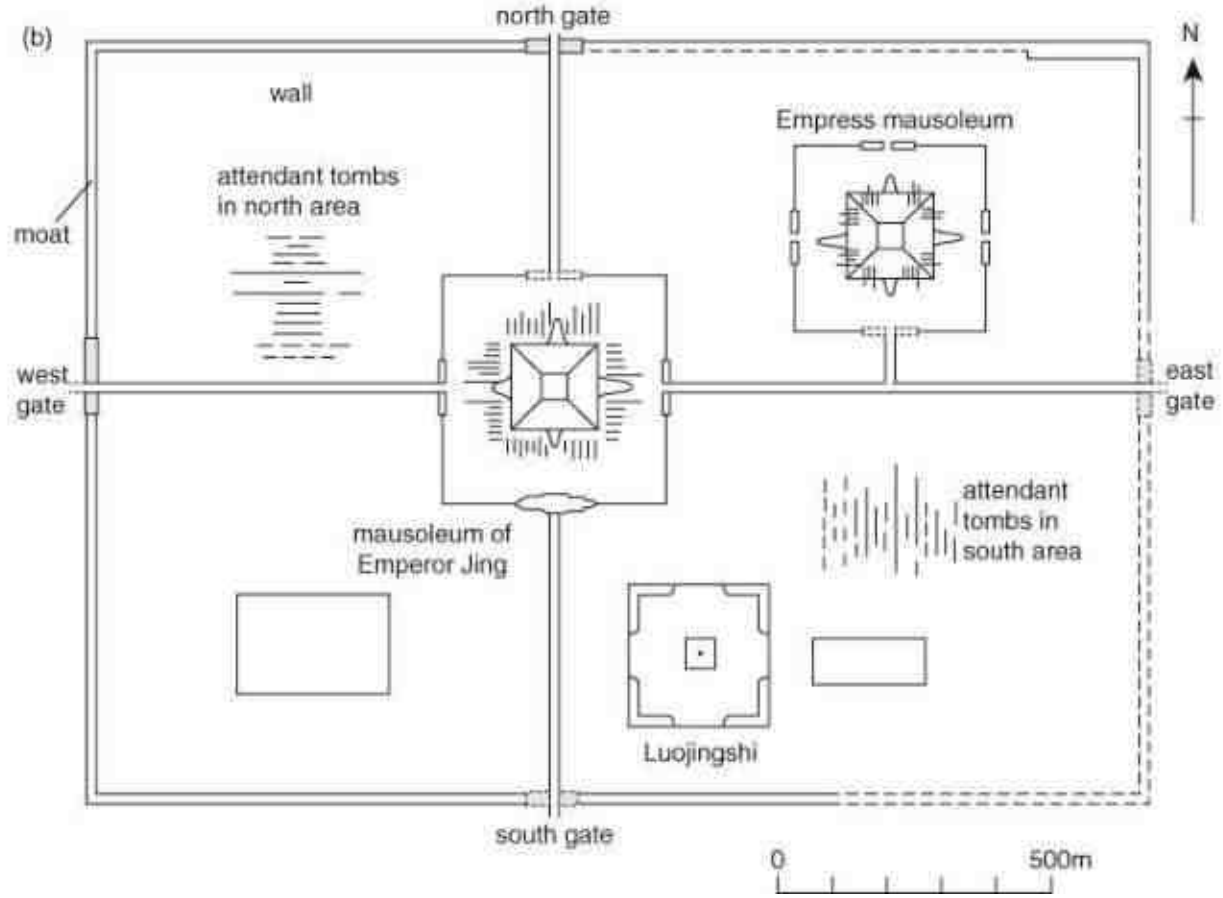
The greatest of all Han tombs were naturally those of the Han emperors themselves. In general form they copied the pattern set by Shihuangdi: a truncated, four-sided pyramid mound, surrounded by a wall and accompanied by a temple where the cult of the dead king was observed. The reigning emperor would visit the tombs of his dead ancestors on specified occasions. The burial mounds were sometimes of enormous size: 230 meters (750 feet) square and 46 meters (150 feet) high in the case of the tomb of Wu Di (141–87 B.C.), the greatest Han emperor. Tradition held that the emperors devoted one-third of their revenues to the construction of their tombs. The main imperial cemetery was located northwest of Changan, the capital. No fewer than nine of the early Han emperors were buried here, on the high ground beyond the Wei River, each in his own mounded tomb, with the smaller burial mounds of consorts, courtiers, and retainers scattered over the surrounding plain (Figure 15.6a). Each imperial tomb was also attached to a settlement of the living, whose inhabitants (numbering several thousands) were charged with the upkeep of the royal necropolis and the continued observance of the necessary rites and rituals. The whole arrangement was remarkably reminiscent of the pyramid cemeteries of ancient Egypt (see Chapter 4).

One of the most extraordinary discoveries of Chinese archaeologists in recent years has been a series of pottery armies, resembling those of Qin Shihuangdi but associated with the Han imperial tombs. The main difference is that the Han figures, dating to the second century B.C., are only around 60 centimeters (2 feet) tall. The largest group, found in 1990, comes from a site 50 kilometers (31 miles) northeast of Xian and is part of the tomb complex of Emperor Jing Di (156–141) and his consort, Empress Wang (Figure 15.6b). Here, passages leading to the main tomb chamber held thousands of pottery warriors; one estimate puts the total number at 40,000, far more than the 6,000 discovered near the tomb of Shihuangdi. One of the passages contained figures of oxen, dogs, sheep, and pigs. Another had a group of soldiers guarding a granary, complete with well-preserved contents of wheat and millet. The soldiers had wooden arms, which could be rotated at the shoulders, and held miniature weapons, including iron swords and wooden crossbows. The figures themselves were originally painted and clothed in silk.

FIGURE 15.6 Imperial landscape of the Qin and Han capitals. The imperial

FIGURE 1.1 The imperial landscape of the Qin and Han capitals. The imperial tombs of the earlier "Western Han" period were mainly located along the higher ground north of the Han capital Chang'an and the previous Qin capital Xianyang; (b) the Yangling funerary complex of Han emperor Jing Di (156–141 B.C.) and Empress Wang. Around the emperor's pyramid mausoleum were eighty-one passages leading to the burial chamber and filled with numerous pottery figurines, weapons, horse trappings, and chariot fittings. (Lin and Li 2018).


(a)
Jing River
Wei River
Yanglingi
Changling
Anling
Yangjiawan
Qin Xianyang Palace
Kanling
Yiling
Weihui Canal
Yanling
Weiling
Pingling
Maoling
Xianyang
Lintong
Chang'an (capital of the Han Empire)
Li Mountains
Wei River
Feng River
Xi'an
Baling
Ba canal
Duling
Tomb of the First Emperor of China
Qin palace
Western Han imperial tombs
River
Modern city or village


(b)
north gate
N
wall
Empress mausoleum
attendant tombs in north area
moat
west gate
east gate
attendant tombs in south area
mausoleum of Emperor Jing
Luojingshi
south gate
0
500m

Changing Fashions

These, of course, are exceptional finds. Most people of the Han empire received relatively simple burials, with few or no grave goods. Only the rich could afford to be buried in such style. Through time, furthermore, there was a shift away from lavish burials to more modest practices. This may in part reflect the impact of the Daoist and Confucianist creeds, but may also indicate that stable Han government made it less important for elites to vaunt their status in death. Thus the earlier elite Han burials (of the Western Han period, 206 B.C. to A.D. 8) contained terracotta models of buildings, including simple farmsteads with courtyards and towers. These provide a much better image of the ordinary architecture of the Han countryside than do the excavated remains of such buildings. Other tomb models represent domestic livestock or agricultural equipment such as rice hullers and winnows. Scenes from court and country life are depicted in relief on molded bricks. Many surviving brick tombs were built by lower officials at county level, but the brick-built chamber tomb soon came to be adopted (in larger scale format) even by high officials.

Economy and Government

The Han empire was one of the earliest states in the world to try to establish the size of its population. A census taken in A.D. 2 gave a total of 12,233,062 households, and the official history of the Western Han for A.D. 8 provides an equivalent figure of 59,594,978 men, women, and children, mostly located in the lower valley of the Huanghe (Yellow River). This population is probably of about the same order of magnitude as the Roman Empire at around the same period.

Most Han subjects were peasant farmers who lived on the land, but cities were also an integral part of the landscape. These were true cities, many of them major centers of settlement, manufacture, and commerce. The capital, Changan, lay just across the Wei River from the Qin imperial capital, Xianyang, which had been looted and destroyed in the civil war that ended the Qin dynasty. With a population of a quarter of a million people, Changan was the greatest Chinese city of its day. It followed a rectangular grid plan, 6 × 7.65 kilometers (3.7 × 4.7 miles) in size. The protective walls were of

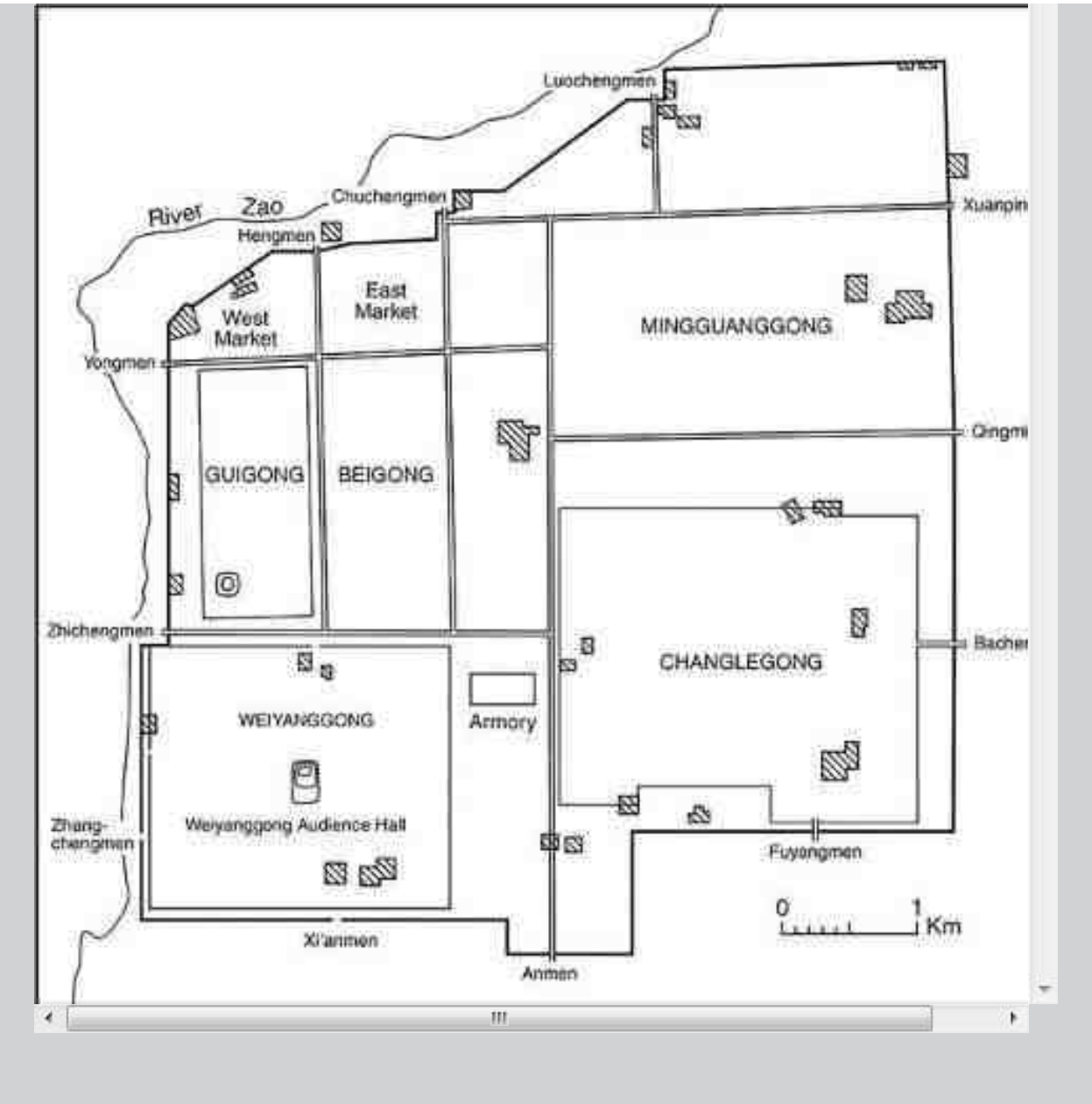
rammed earth—16 meters (52 feet) thick at the base and protected by a moat—and had twelve city gates, three on each side. Just outside the western wall was an imperial pleasure garden, expertly landscaped and stocked with botanical and zoological rarities. Within the walls were palaces and markets, temples and shrines, and residential and industrial quarters. Of the buildings themselves, constructed mainly of timber and tile (only occasionally of brick), little has survived. Contemporary accounts tell of dwellings crowded together "as closely as the teeth of a comb." Wealthy families lived in multistoried houses, dressed in silks and furs, and traveled the streets of the capital in fine horse-drawn carriages (see Box 15.1).

Box 15.1 Sites *Changan: The Han Capital*

Relatively little survives of the Han capital at Changan, although the massive rammed-earth walls still stand in places to a height of several meters (see Figure 15.7). Chinese archaeologists have been able to reconstruct much of the internal layout with the aid of ancient descriptions. Thus, the south of the city was occupied by two enormous imperial palaces, the Changlegong and the Weiyanggong, covering, respectively, one-sixth and one-seventh of the entire city area. Each of them had its own rammed-earth enclosure wall, complete with towers. Chinese archaeologists have recently excavated quantities of arms and armor at the southwestern watchtower of the Weiyanggong, showing that it was heavily garrisoned. The most conspicuous surviving feature is the base of the Qian Dian, or Audience Hall, at the center of the Weiyanggong—an enormous stepped foundation platform, 350 × 200 meters (1,150 × 650 feet), in plan and rising to a height of 15 meters (50 feet) at its highest northern point. Here, the emperor dealt with state affairs. In another part of the Weiyanggong compound, part of the imperial archives has been unearthed, consisting of slips of cattle bone inscribed with records of tribute received by the government over a period of 200 years. The Changlegong was originally the home of the Dowager Empress. Between the two palaces was a third large imperial structure: the arsenal, a cluster of warehouses up to 230 meters (759 feet) long and almost 50 meters (160 feet) wide. Chinese archaeologists excavating here in the 1970s found iron swords, spearheads, halberds,

and armor. Three other imperial palaces, only a little smaller in size, were located in the northern part of the city. One, the Mingguanggong, housed Emperor Wu Di's 2,000 concubines. Here, too, were nine markets and evidence of coin casting and pottery making. Houses of the nobility were built near the gateways to the palace enclosures, but the dwellings of the ordinary populace seem to have been concentrated in the northeastern corner of the city. They were grouped into walled compounds, or "wards," to ensure strict central control.

FIGURE 15.7 Plan of Chang'an, capital of the Han empire during the "Western Han" period (206 B.C.–A.D. 8).



A constant concern of the Han government was to supply Changan and the other main cities with food. In 55 B.C., 60,000 soldiers were employed to carry 4 million measures of grain by barge to feed the capital. In some places canals were dug to facilitate bulk transport. During the first century A.D., the state embarked on a major project of building dikes and digging channels to control the Huanghe, which regularly overflowed its banks and devastated large areas of fertile farmland. Not for nothing did this mighty river become known as “China’s sorrow.”

During the course of the Han period, the southern region of China, with its abundant deposits of iron and its high agricultural productivity, became increasingly important at the expense of the north. The government made both iron and salt into state monopolies in 117 B.C. Salt was obtained either from coastal pans around the Shandong peninsula or from brine wells inland. Iron was important as the main material for weapons; its control gave the state not only an important source of revenue but also a means to forestall internal rebellion. Five years later, in 112 B.C., the minting of coins also became an imperial monopoly.

These and other state enterprises were placed in the hands of trained bureaucrats, appointed and promoted on the basis of merit. As early as 196 B.C., an imperial edict ordered the commanderies to send suitable candidates for official posts to the capital, Changan, where their abilities could be assessed. These candidates were soon expected to take formal written examinations before appointment to official positions. They were mainly members of the flourishing middle class, literate and articulate, and more likely to be loyal to the central government than were the old noble families.

The Northern Frontier

The Han army consisted largely of conscripts since all able-bodied males were required to serve two years between the ages of 23 and 56. Many of them were posted to the northern frontier, which faced the greatest security threat. The people of the steppes, beyond the Great Wall, regarded northern China as a land of rich pickings, and raids and invasions were an ever-present menace for the Han population of the northern provinces. The main enemy was the Xiongnu, warrior nomads from Central Asia who had established a powerful confederacy on the northern steppes by the second century B.C. Emperor Wu Di (141–87 B.C.) decided to take decisive action against them and mounted a series of major campaigns, fielding armies of between 50,000 and 100,000 men. Wu Di extended Shihuangdi's Great Wall far to the west, eventually to the Tarim basin, and established commanderies throughout the region. Towers along the line of the wall, built of sun-dried brick, served as signal stations, sending messages by flags or torches. They were manned by small detachments of conscripts, who found themselves far from their homelands in the Yangzi or Huanghe valleys, in desert terrain that was burningly hot in summer and bitterly cold in winter (see Box 15.2). It must

have been a harsh tour of duty, though in military terms the conscripts were well provided with armor and crossbows to resist any nomad assault.

Box 15.2 Discoveries T*he Tarim Mummies*

The Taklamakan Desert on China's northwestern frontier is one of the harshest regions in the world, but it was skirted by important routes linking China to Central Asia and the West. In oasis settlements along the desert fringe lived communities whose dead have been extraordinarily well preserved by the desiccating desert sands (Figure 15.8). One of the best-known graves is that at Zaghunluq where in a heavily looted cemetery a pit held the remains of a man and three women. The man and one of the women, dated to c. 600 B.C., had been naturally mummified. At another cemetery, Qizilchoqa, tartan fabrics were found closely similar in weaving technique to those found in Europe at the same period. Study of the bodies themselves suggests that most (though not all) have features described as Caucasoid (rather than the Mongoloid features of the majority of Chinese), and this finds some support in the DNA discovery of the typically European Haplotype H in a sample from one of the bodies. It is also known that an Indo-European language (or rather a related group of languages) known as Tocharian was spoken in the Tarim basin in the sixth to eighth centuries A.D. Taken together, these findings indicate that the Tarim basin may first have been settled by nomads from the Eurasian steppe, genetically and linguistically related to peoples further west. In the Han period, and later during the Tang dynasty, the Tarim basin came under Chinese political control, but from the ninth century A.D. it was dominated by Turkic-speaking Uyghur peoples, and the latest Western-looking figures in the local Buddhist art date to the thirteenth century A.D.

FIGURE 15.8 Tarim mummy from Zaghunluq, Xinjiang, China. Toru Yamanaka/AFP/Getty Images.

Early in the twentieth century, a series of Western explorers mounted expeditions to the remote lands of northwest China. They were rewarded by the discovery of documents written on bamboo strips, which had been preserved by the arid sands of the desert. These documents, when deciphered, proved to be records of the Chinese military garrisons stationed in these remote border outposts. They included letters, inventories, duty rotas, and ration lists. Other documents reported the results of the annual archery tests

that the troops had to undertake or occasional lapses in military discipline. They throw vivid light on a soldier's life on the Great Wall during the Han period (see Box 15.3).

Box 15.3 Discoveries *Writing and Literacy*

Writing began in China during the Shang period, but the Han government standardized the script and used it to administer the vast empire. In so doing it established a single script throughout the whole of China, one that has remained in use without significant change into the twenty-first century. The Han period also saw a great expansion in literacy and the use of writing in many areas of life. Writing was generally done with a brush and ink. For important documents or wealthy households, rolls of silk might be used (as also for maps or diagrams such as those found in several Han tombs). Ordinary documents were written on long wooden strips, so narrow that they could hold only a single column of characters. The strips were then tied together by hempen strings so that they could be rolled up for storage. Wood was cumbersome and bulky, silk expensive and rare. Toward the end of the Han period (traditionally in A.D. 105) an imperial official invented a new writing material: paper. This could be made from discarded rags and woodchips and hence was much cheaper to buy, although it did not become widely used in China until the fourth century, well after the fall of the Han dynasty.

One reason for extending the Great Wall to the west was to provide a protected corridor from China into Central Asia. This was the first leg of the famous Silk Road, a series of routes running from Han China to the Near East. Overland transport was expensive, and only luxury products made commercial sense in such long-distance trade. Silk was one of the most valued materials to travel in this way, reaching India, Persia, and the Roman Mediterranean. Few traders, if any, traveled the whole distance; the idea was to carry the goods so far, then sell them at a profit to local merchants. Those local merchants, in turn, would carry them to the next trading station and sell them there. Eventually they might reach Alexandria, Antioch, or even Rome.

The Silk Road trade was not a unidirectional enterprise. Goods and ideas also flowed into China along this route. The most important of these was Buddhism, which arrived from India in the first century A.D.

It was not only commerce that carried Chinese cultural influence into Central Asia. Still more important was the Han government practice of giving gifts and subsidies to the nomadic peoples, sometimes to buy peace and sometimes to cement alliances. Once again, silks were a major commodity, though only rarely have they survived to be found by archaeologists. More tangible evidence of contact is provided by the distinctive circular bronze mirrors with decorated backs. These mirrors were often placed in Han tombs and were thought to assist the spirits of the dead. Beyond the frontiers, they have turned up in the territories of the various nomadic groups with which the Han government was in contact.

Han Expansion into Southern China and Korea

Emperor Wu Di's expansionist policies were not only directed at northwestern China. He also launched campaigns in the south, against the Dian people on the Vietnamese frontier. By 110 B.C. most of this region had been absorbed. The Yue people of the southeast coast held out somewhat longer and were only fully assimilated in the late Han period. These campaigns were important in setting the southern boundaries of Chinese control for centuries to come. The Han emperors and their successors maintained commercial and diplomatic ties with the states of Southeast Asia. Their ships traveled as far as India, bringing Chinese markets within the orbit of the maritime trade networks of the Indian Ocean (see Chapter 13). Though central power might weaken and be divided, Han Chinese culture was as strongly established in the south as in the traditional heartlands of the north.

In the northeast, Wu Di's forces came up against the Choson kingdom of Korea, which they defeated in a short series of campaigns. In 108 B.C. most of the Korean peninsula was divided into four Han commanderies, the most important of which was Lelang. In the 1930s, Japanese archaeologists excavated an enormous walled enclosure covering 42 hectares (104 acres) at the Tosongni site on the west coast of Korea. They identified this as the Chinese capital of the Lelang commandery, a well-planned town with brick-paved lanes and a ceremonial palace. On the hills nearby were almost 1,500 burial mounds. Some of them belonged to Chinese officials, immigrants from

the west. Others were probably the graves of local people, culturally assimilated by the Han Chinese. When the first native Korean states arose in the fourth century A.D., they owed much to Chinese influence.

The Fall of Han China

In A.D. 25, after the brief interregnum of the Xin dynasty (A.D. 8–23), the Han emperors abandoned Changan and moved their capital east to Luoyang. This marked the beginning of the second period of Han China (known as the *Eastern Han*). Within little more than a century, however, signs of decline were evident. A census taken in A.D. 140 recorded only 48 million people, 10 million fewer than in A.D. 2. At the same time, the central government was losing power to local lords, many of whom were building up massive estates that were exempt from taxes. The lot of the ordinary farmer did not improve, however, and there were serious peasant rebellions. From A.D. 187 the Han dynasty was steadily shorn of real power, and in A.D. 220 it was officially abolished.

The Western Jin dynasty briefly restored unity to China in the late third century but was overthrown by incursions from the powerful nomadic Xiongnu and Xianbei peoples of the northern steppes a few decades later. The unified Chinese empire was now fragmented. The following centuries saw the rise and fall of many states and dynasties, coupled with serious incursions by the northern nomads. Central control was not restored until the Sui (581–618) and Tang (618–907) dynasties, which lie beyond the scope of this book.

SECONDARY STATES: KOREA AND JAPAN

No account of early civilization in eastern Asia would be complete without a review of state formation in Korea and Japan during these post-Han centuries. Korea and Japan are examples of secondary state formation (see Chapter 1): regions that came under the influence of a powerful neighboring state (in this case Han China) and underwent social and political changes, which led them in turn to develop their own state-level societies.

Korea (A.D. 220–700)

The process is clearest in Korea. The foundation of the Lelang commandery by Han China in 108 B.C. is an example of centralized political organization, even though this commandery was merely one of the provinces of a larger empire. Local elites were conscripted into running the province, and they acquired new ideas and aspirations. After the collapse of the Han empire the Lelang commandery was revived by the Wei dynasty of northern China and did not finally disappear until A.D. 313. It is during the following decades that we find the first evidence of native kingdoms in Korea.

The kingdoms in question are Koguryo in the north and Silla and Paekche in the south, as well as the more amorphous polity known as Kaya. Each had at its heart a cemetery of mounded tombs, the burial places of the ruling dynasty. These had tomb chambers for the body of the deceased, accompanied by wealthy offerings: lacquerware, gold and silver ornaments, wine cups, and chopsticks. The richest tombs had chambers of squared stone or brick, plastered over and decorated with mural paintings of episodes from daily life—the dead person hunting and feasting— and mythological scenes with dragons and spirits.

The best known of the Korean tombs are those of the Kyongju cemetery, in the kingdom of Silla. One of the largest mounds was Tomb 98, the so-called Great Tomb at Hwangnamdong. This fifth-century tomb was in fact a double burial of king and queen, with their individual tomb chambers in separate mounds, built against each other. The king's grave was notable for a pit adjacent to the tomb chamber that contained over 2,500 iron weapons and pottery vessels. The queen was buried with a gold crown and gold belt with pendants. The king, too, had a crown, though his was only of gilt bronze. Both tombs also contained imported materials from far afield, including a striped glass goblet, probably manufactured in Alexandria, Egypt.

Throughout what is known as the *Three Kingdoms period* (A.D. 300–668) Silla, Paekche, and Koguryo vied and fought for political supremacy. In the north, Koguryo captured the seat of the Chinese Lelang commandery in A.D. 313 and moved its own capital there a century later. It then began to expand southward, absorbing parts of Paekche. All three kingdoms maintained contacts with China, adopting the Chinese script and the Buddhist religion from their Western neighbors. With Buddhism came cremation, and from the seventh century onward Korean rulers were no longer buried in large mounded tombs. State resources were directed instead to the construction of Buddhist temples with tall pagodas, sometimes of wood and sometimes of

brick or stone. Paekche craftspeople were particularly noted for their building skills, just as Silla was a center for gold working and Kaya a region of iron production.

During the seventh century the southern kingdom of Silla emerged as the major Korean power, conquering Kaya and Paekche and then going on to defeat Koguryo. This victory marks the beginning of the Unified Silla period (A.D. 668–918). The Silla kings built themselves a new city immediately to the north of their existing capital. This new city, Kumsong, followed a gridded plan in emulation of the great Tang dynasty capital of Changan (a new city built alongside Han Changan). Silla also adopted features of the Tang administrative system, including a provincial structure of government. There can be no doubt about the powerful impact of Chinese civilization on the early states to its east.

Japan (A.D. 250–700)

The development of the early Japanese state is closely associated with the construction of monumental burial mounds of very distinctive form, and sometimes of considerable size: the keyhole-shaped *kofun* tombs which give their name to the Kofun period (A.D. 250–700). During this period, an estimated 160,000 burial mounds were built throughout eastern and central Japan (Kyushu, Shikoku, and most of Honshu). They take a variety of forms —some circular, others rectangular, but the most distinctive are the keyhole shaped mounds, with a rectangular front section grafted onto a circular main mound. The principal burial was in the center of the main mound, in a pit dug into its summit and lined with stone. The body itself was placed in a timber coffin in the late third and fourth centuries, or a stone sarcophagus in the fifth century, and the deceased individual was accompanied by bronze mirrors (especially in the late third and fourth centuries), by iron weaponry (especially in the fifth century), as well as by beads and other personal possessions. Around the top of the mound, its terraced slopes, and the base, were rows of *haniwa*, intended to indicate the status of the deceased and to provide magical protection against evil. Most *haniwa* take the form of simple pottery cylinders, though some are shaped as houses, and others as horses or armored warriors, where the intention was to show the tomb was that of a ruler or warrior (Figure 15.9).

FIGURE 15.9 Reconstructed *kofun* tomb of Hotoda-Hachiman-zuka in Takasaki City, Gunma prefecture, Japan; late fifth century A.D. Chris Scarre.

These keyhole *kofun* were the graves of the emerging elite, and at the very apex stood the massive burial mounds of the paramount rulers of the Yamato state. The first of the large keyhole-shaped *kofun* is the Hashihaka tomb, 280 meters long and dated to the mid-third century A.D. Over the following centuries some 30 large *kofun* (over 200 meters in length) were built in the area around Nara and Osaka, each perhaps the resting place of one of the early rulers. The largest of all were those of the Mozu and Furuichi cemeteries, close to modern Osaka, notably the enormous Daisen (or Nintoku tenno-ryo or Emperor Nintoku's Mausoleum) burial mound built during the fifth century A.D. (Figure 15.10). This has traditionally been attributed to Nintoku—reputedly the sixteenth emperor. The mound is 485 meters (1,600

feet) long and 35 meters (115 feet) high, contains an estimated 1,405,875 cubic meters (49,647,736 cubic feet) of material, and is enclosed within a series of three concentric moats. Remains of almost 30,000 cylindrical haniwa have been found, along with human-shaped *haniwa* from the moat. Two other tombs in the Mozu-Furuichi group are only a little smaller—Konda Gobyoyama-kofun (also known as Ojin tenno-ryo or Emperor Ōjin's Mausoleum) at 425 meters (1,395 feet) and Kami Ishizu Misanzai kofun (also known as Richu tenno-ryo or Emperor Richū's Mausoleum) at 365 meters (1,200 feet). Smaller mounds of similar design were built presumably by subject rulers or local aristocrats, both here and elsewhere through western and central Japan.

FIGURE 15.10 Aerial photograph of the Daisen keyhole *kofun* tomb with its triple moat, close to modern Osaka. This massive monument built during the fifth century A.D. was the burial place of one of the early rulers of Japan. The reconstructed Hotoda-Hachiman-zuka *kofun* (Figure 15.9) gives an indication of its original appearance. Chris Scarre.

How directly the Yamato state was influenced by Korea remains a point of contention. There were diplomatic contacts between China and Japan during the Han and in the period that immediately followed, and Chinese records of the third century A.D. refer to a kingdom of Wa, ruled by a powerful queen. That corresponds to the period of the first large keyhole *kofun*. Following the conquest of the Han Commandery of Lelang by Koguryo in A.D. 313, and the fall of Western Jin dynasty to the Xiongnu in A.D. 318, however, the greatest formative influence on the early Japanese state appears to have come from southern Korea. Close contacts with the Kaya region of southern Korea are not disputed. It was from this region that Yamato rulers obtained much of their iron and adopted iron armor and weapons. The new fashion for horse riding, represented by finds of horse trappings in the *kofun* tombs, was also derived from the Korean peninsula.

Like Korea, the early Japanese state came under growing influence from mainland China in the sixth and seventh centuries. The rulers reorganized their kingdom into a series of provinces linked together by trunk roads. Chinese script was adapted for the Japanese language. Buddhism was adopted by the ruling elite in A.D. 538 and led, as in Korea, to the demise of

the burial mound. Buddhist temples and extensive royal palace complexes took their place as the dominant monuments of the new religion. From the Asuka period (A.D. 592) the story becomes increasingly well known from written and historical records, and the maturity of the Japanese state was confirmed by the founding of the grid-plan capital of Fujiwara in 694. This was modeled once again on the Tang capital, Changan, and along with residential zones contained an enormous palace, covering an area of over a square kilometer (a third of a square mile). Sixteen years later a second grid-plan capital was founded at Heijo, to the north. Large numbers of wooden writing tables have been recovered from excavations at the Heijo Palace since 1961. This remained the center of the Japanese state until the end of the eighth century, when the capital was transferred to Heian (modern Kyoto), superseded only in 1869 by Tokyo, the present capital.

Summary

Major social, political, and economic changes transformed the nature of Chinese society in the sixth and fifth centuries B.C. Populous cities made their first appearance, along with ironworking and coinage. China was divided among a number of rival kingdoms during the Warring States period (481–221 B.C.), but in the third century B.C. these were unified into an empire by Shihuangdi, First Emperor of China. The empire founded by Shihuangdi was continued under the Han dynasty (206 B.C.–A.D. 220). Wealthy burials provide particularly rich evidence of the lives led by the early Han rulers and aristocracy. Roads, canals, and frontier works indicate the development of centralized bureaucratic control. After the fall of the Han empire, “secondary” states were formed under Chinese influence in the neighboring regions of Korea and Japan during the fourth to seventh centuries A.D.

PART VI

Early States in the Americas

CHAPTER 16

Lowland Mesoamerica

FIGURE 16.0 Elaborate murals decorate rooms in a palace building at the Classic Maya city of Bonampak, Mexico. Here, splendidly adorned dancers whirl across the steps of building, while to the upper left royal women stoically draw blood from their tongues with stingray spines as a ritual offering. Charles Golden.

The vast, colorful crowd falls silent, all eyes turned toward the dark entrance of the temple, high on the pyramid's summit, above the great plaza. Mist swirls around the brightly painted temple and its grotesque carvings, casting layers of shadows across the artificial hilltop. It is as if the mountains are wreathed in clouds. A man clad in white emerges from the temple, supported by high nobles. Strong-smelling incense rises high above the temple as the priests bring forward the white bark paper and the sacred stingray spine. The lord gashes himself deliberately, blood cascading from his genitals onto the waiting paper. The incense thickens, and the lord falls into a shamanistic

trance in full view of the crowd. As he communicates with the ancestors and chants loudly, the people wait in awe for their ruler has departed from his body for the sacred world of the ancestors.

CHAPTER OUTLINE

Mesoamerica
Village Farmers (c. 7000–2000 B.C.)
The Formative Period: The Olmec (1500–500 B.C.)
Preclassic Maya Civilization (1100 B.C.–A.D. 200)
- *Evidence of Early Maya Kingship*

Classic Maya Civilization (A.D. 200–900)
- *The Maya Calendar and Script*
- *Landscape Management*
- *The Rise of Tikal (c. 200* B.C.–A.D. 900)
- *Political History and Connection with Teotihuacan*
- *Political Rivalries and the Fall of Tikal*
- *Palenque (*a.d. *431–799)*
- *Copán (*a.d. *426–810)*
- *Elite Overreach*

The Ninth-Century Collapse
Postclassic Maya Civilization (A.D. 900–1517): Chichen Itza and Mayapan

If you eat tomatoes or avocados, enjoy the occasional cup of hot cocoa, or know what a coyote is, then you are drawing on the fruits and languages of Mesoamerican cultures. These have enriched the cuisines and dictionaries of peoples world-wide since the early sixteenth century A.D. when Spanish colonists brought people and goods back to Europe from Mexico and Central America. Some few Mesoamerican civilizations like the Aztec and Maya are widely known from magazines and movies, their ruined cities popularized as tourist destinations. But ancient Mesoamerican peoples spoke hundreds of different languages, and saw numerous chiefdoms, kingdoms, and empires rise and fall. The descendant communities of the cultures we know archaeologically and from early colonial histories are very much alive today in Mexico and Central America. Numbering in the millions, many indigenous

people continue to speak one of the thirty or so languages in the Mayan family; the Nahuatl language of the Aztecs; the Zapotec language of Monte Alban; the Purépecha language of the Tarascan Empire of Michoacan; or Otomí, Mixtec, Zoque, and many more. This book can only offer a glimpse of such cultural and linguistic diversity.

This chapter describes the origins and growth of Maya and other lowland civilizations of southern Mesoamerica. This chapter surveys the peoples of the nearby highlands, who interacted constantly with their lowland neighbors. Intricate calendars; great ceremonial centers; and superb architecture, glyphic writing, and elaborate rituals—Maya civilization fascinates archaeologist and layperson alike. But how did Maya civilization begin? What were the origins of the spectacular pre-Columbian states of lowland and highland Mesoamerica? To discover the origins of lowland Mesoamerican civilizations, we must travel back nearly four millennia to the village farming communities that flourished in this region when Egyptian civilization was at its height and the Shang state dominated northern China.

MESOAMERICA

We must begin by defining the term *Mesoamerica*, which simply means "Middle America." Archaeologists conventionally use it to describe the large area from Central Mexico through swaths of Central America where indigenous states flourished in the millennia before the arrival of European colonialism. These boundaries fall almost entirely in the tropics, though variations in elevation and weather patterns mean that it exhibits a wide range of environments from sweltering lowland jungle to snow-capped mountains, and from rainforests to deserts. The borders typically drawn around Mesoamerica form a wavy line running into the state of Nayarit on Mexico's northwest coast, and Tamaulipas state in the east. In the arid center of the country the line is drawn further south, in the deserts just north of the state of Hidalgo where the great city of Tula is located. Two great mountain chains form the backbones of highland Mesoamerica, running down the coastlines until they reach the east-west volcanic chain that forms Mexico's central plateau. The inland basin of the Valley of Mexico, which was once covered by a chain of five lakes that are now covered by Mexico City, forms the heart of that plateau.

The highland regions of southern Mesoamerica are mountainous, with the highland valley of Oaxaca offering some of the rare flat terrain in the region. Yet further south, the volcanic uplands continue to the areas around which modern Guatemala City is situated. The peoples of the basin of Mexico and the southern highlands of Oaxaca enjoy a relatively cool climate, and snow occasionally falls around the Valley of Mexico. Most rainfall occurs between June and November, which is sufficient to allow a single crop a year without irrigation. The more southerly plateaus are fertile and warmer, and the highlands of Guatemala are colloquially known as the "Land of Eternal Spring" because of its mild climate, which together with its rich volcanic soils can support multiple harvests.

Along the east of Mexico, the serried mountains of the highlands give way to the low-lying—and hotter—low coastal plains of Veracruz and Tabasco, the Yucatán Peninsula, and the heavily forested coastal strip along the Gulf of Honduras. The limestone peninsula of the Yucatán juts north into the Caribbean Sea, while its southern reaches make up the Petén of Guatemala, with hilly limestone formations covered by dense tropical forest intersected with rivers, lakes, and swamps. The limestone plains of the northern Yucatán are much drier and without large rivers, for water filters quickly into underground caves and channels. Together, the Yucatán peninsula and the Petén make up the Maya Lowlands.

Yet, more than lines on a map, Mesoamerica is defined by shared language families; cosmologies; trade and political networks; and, most importantly, state-level society. Anthropologist Paul Kirchoff used ethnographic and linguistic data to define the geographic limits of Mesoamerican culture area in 1942. He drew up a list of cultural traits that he believed delimited the "high cultures" of Mesoamerica remarkable for their elaborate religious beliefs and ceremonial rites, including human sacrifice; for their spectacular public architecture of temples, plazas, and pyramids; and for their writing systems and calendar systems permitting the precise recording and ordering of time, so critical tool to the organization of Mesoamerican agriculture cycles (see Box 15.1). The characteristic most important to Kirchoff was that of urban, state-level societies like the Aztec Empire or their great rivals the Tarascan state, as well as earlier states like Teotihuacan and Maya cities like Tikal, which emerged independently of any influence from the ancient civilizations of Europe, Asia, and Africa.

Cultural patterns, however, defy easy geographical delineation and the borders of Mesoamerica were never fixed. When the power and wealth of cities like Teotihuacan, Tula, and Tenochtitlan drove expansive trade networks, the reach of Mesoamerican cultures extended north into the Mexican desert at sites like La Quemada in Zacatecas, and beyond into the Southwestern United States and the Ancestral Pueblos of Chaco Canyon. The southern borders of Mesoamerica are defined largely by the geographic spread of the Mayan languages and culture into El Salvador and western Honduras. However, a long tail is often drawn extending along the Pacific coast from Guatemala down into the Nicoya peninsula of Costa Rica, reflecting the migrations of peoples originating in Central Mexico and speaking dialects closely related to the Nahuatl of the Aztec Empire.

The pre-Hispanic or pre-Columbian peoples of Mesoamerica—those indigenous groups in the region prior to the arrival of the Spanish and other European colonial regimes—would not have recognized the modern academic notion of Mesoamerica. Yet they clearly distinguished peoples they saw as civilized from those they viewed as uncultured. The Aztec, for instance, considered the semi-nomadic peoples in the arid regions to their north to be Chichimeca, essentially barbarians (see Chapter 17). Only in recent decades have archaeologists really begun to look closely at the pre-Hispanic cultures of the Chichimeca, moving beyond Aztec biases, to see how they too contributed to, and were influenced by, the urban civilizations of Mesoamerica.

Food as both technology and cuisine is one of the most obvious and ancient linkages among the peoples of Mesoamerica. In particular, there is a cultural focus and a nutritional emphasis on maize as the staple cereal. Maize was (and is) consumed in a bewildering variety of forms across Mesoamerica —tortillas, tamales, and drinks like the gruel known as atole are just a few. Indeed, some Mesoamerican people conceived of themselves as beings formed by the gods from maize dough and water. When processed properly, a diet based on maize and beans provides a complete protein, and added to this were squash, chilies, manioc, and much more.

Domesticated plants were supplemented by protein from game animals and fish, and a very few animals raised around the home. Dogs, which had been brought to the Americas with the earliest Paleoindian settlers, were used for hunting and as household companions, but some breeds were also raised for food. Turkeys were domesticated by 800 B.C., and raised alongside other

fowl like ducks. Deer and peccary (wild pigs) were not domesticated, but could be tamed, corralled, and raised for food within communities. However, a lack of domesticated draught animals like the horse and oxen, or pack animals like the llamas of the Andes, meant that long-distance trade and the construction of Mesoamerica’s cities were carried out solely by human power.

TABLE 16.1 Chronological table of Mesoamerican civilizations

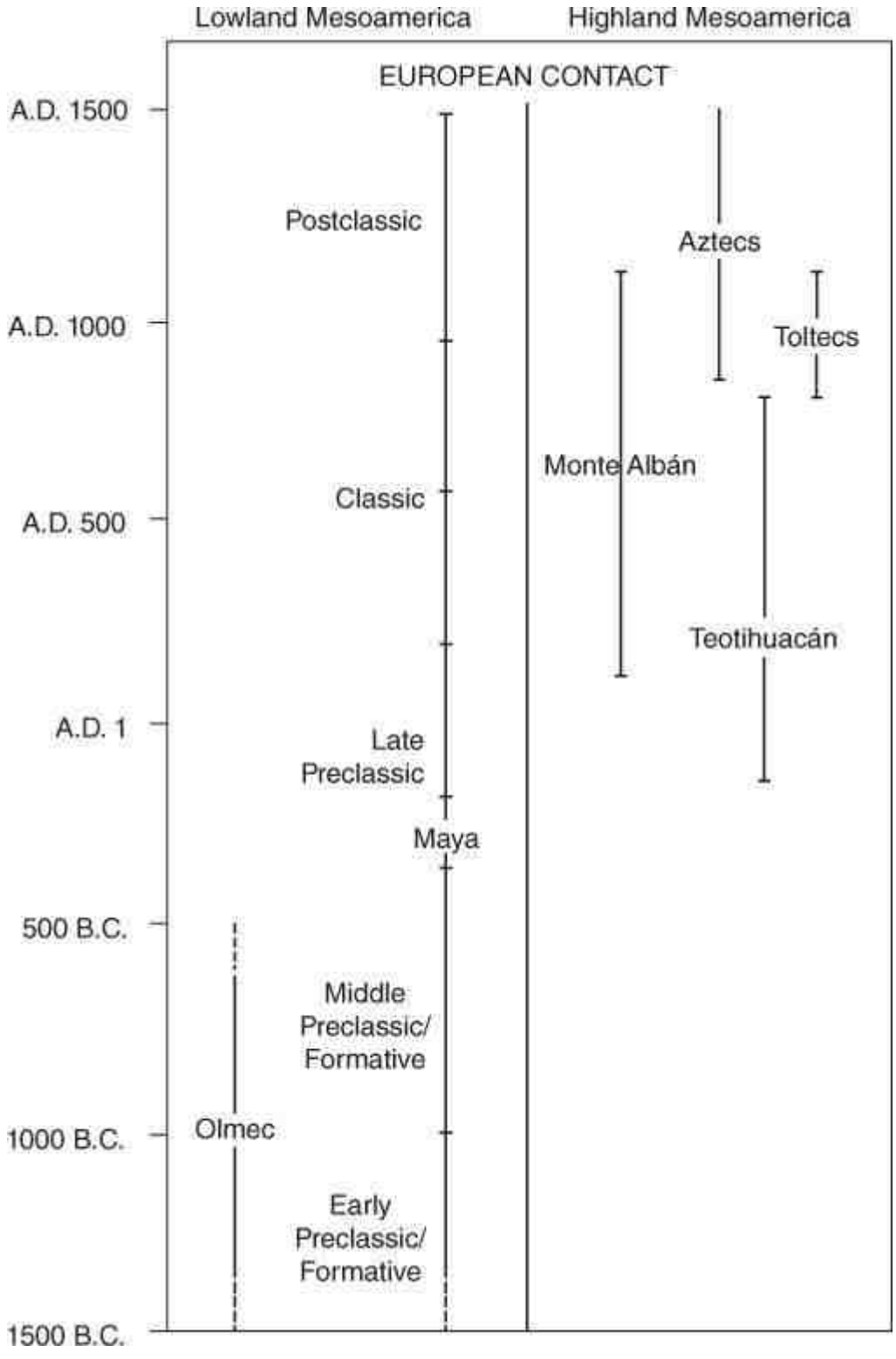
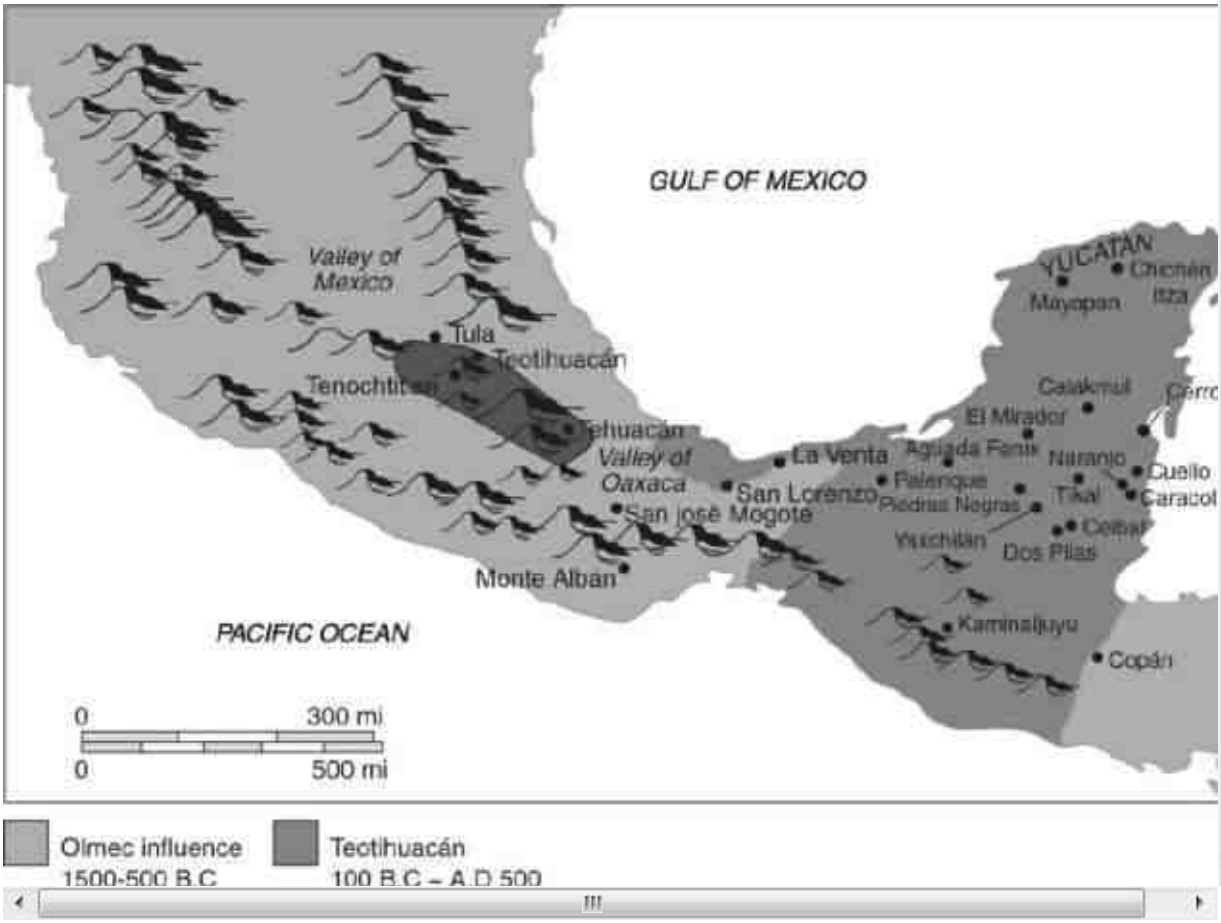

Lowland Mesoamerica
Highland Mesoamerica
EUROPEAN CONTACT
A.D. 1500
A.D. 1000
A.D. 500
A.D. 1
500 B.C.
1000 B.C.
1500 B.C.
Postclassic
Classic
Late Preclassic
Maya
Middle Preclassic/ Formative
Olmec
Early Preclassic/ Formative
Aztecs
Toltecs
Monte Albán
Teotihuacán

FIGURE 16.1 Map of archaeological sites and states mentioned in Chapter 16.



Perhaps most prized among all Mesoamerican foodstuffs was cacao, the fruit pod whose seeds today are primarily used to make chocolate. Some of the earliest Mesoamerican pottery from sites like Paso de la Amada, Chiapas retain the residue of cacao beverages. Rather than the hot chocolate we know today made from the seeds of the cacao plant, these early drinks may have been an alcoholic brew made by fermenting the pulpy fruit of the cacao pod. The cacao seeds, the chocolaty flavor of which benefit from fermentation, only gradually became the product of interest. For Mesoamerican peoples beverages made from ground cacao seeds were luxuries, drunk bitter or sweetened with honey and flavored with chilies, vanilla, cinnamon, and other spices. So important was cacao that it was traded as a sort of currency in the markets of the Aztec Empire.

Cosmological and religious concepts also show marked similarities across Mesoamerica. Human and animal sacrifice reinforced the cyclical connections of life, death, and rebirth, even as they fed deities and repaid the debt owed to such supernatural beings for sacrificing of themselves in the creation of humans. Ideas about rain gods and feathered serpents, understandings of the surface of the world as a crocodilian monster, and the conception of the universe as a form with four corners and a center position were widespread. Access to these supernatural powers could be gained at natural mountains and caves, but human-made mountains and caves in the form of the great temple-pyramids that rose above cities and towns became one of the hallmarks of Mesoamerican architecture.

Otherworldly powers could also be accessed and invoked in the ballgame, the earliest evidence for which dates to 1700 B.C. at Paso de la Amada. The game was a sport and a ritual, set in a playing alley defined by two parallel buildings, with the court representing a human-made cleft in the earth and a portal to the underworld. The precise rules of the game are unknown and varied among cultures, but play clearly involved players keeping a solid rubber ball moving back and forth using only their hips or forearms.

People and ideas were carried along trade routes that were established well before people had even settled into permanent villages. Obsidian was carried from the volcanic highlands of Central Mexico and Guatemala over many hundreds of kilometers. Shells for decoration, and that precious nutrient salt were shipped inland from the Pacific, Caribbean, and Gulf coasts. Jade, prized for its lustrous shine and verdant color which evoked agricultural fertility, was shipped from its sources in Guatemala across Mesoamerica, reaching as far south as Panama.

The great civilizations of the Mesoamerica have always been dependent on commodities obtained from neighbors near and far, in every kind of highland and lowland environment imaginable. Therein lies a crux of Mesoamerican civilization: the constant interactions and exchanges of both commodities and ideas among people living in dramatically contrasting environments, often within only a few hundred kilometers of one another.

VILLAGE FARMERS (C. 7000–2000 B.C.)

Pleistocene hunter-gatherers first arrived in Mesoamerica during the Paleoindian period, by at least 14,000 BP (~12,000 B.C.). Mammoth-kill sites

in the lake bed beneath Mexico City and elsewhere reveal a landscape filled with Pleistocene megafauna and a climate far cooler than today. Although we know little about these first settlers, DNA extracted from human skeletons found in water-filled sink-holes like Hoyo Negro (“Black Hole”) in Mexico’s Yucatan Peninsula indicates that they share a common Asian ancestry with later indigenous peoples of the Americas.

By the Archaic period (~8000–2000 B.C.) the region’s climate had become more like that of today. While people still lived as mobile hunter-gatherers their seasonal movements covered smaller areas as they became more adapted to the plants and animals of distinct regions. When seasonal resources were abundant, bands of hunter-gatherers would occasionally gather together at sites like Gheo-Shih in Oaxaca. There a path measuring 7 × 20 meters (23 × 66 feet) was swept clear and lined by small boulders, with outlying residential structures marked by oval rings of stone that once formed the bases of small huts. The path at Gheo-Shih may have been an early playing field, or perhaps a space for communal dance and other rituals.

At Guilá Naquitz, Oaxaca, Kent Flannery excavated seven cultural layers, of which six represented transitory, sporadic, seasonal visits by a small group of foragers from late summer to late fall between about 8800 and 6700 B.C. A meticulous study of the environmental data and seed remains from the cave revealed people who were experts at exploiting the plant foods in an area where rainfall was always unpredictable. Computer simulations show how the people scheduled their foraging of these plants through the various seasons of the years. Under these circumstances, the collective memories of successive generations are of vital importance, for past experience forms the basis for survival decisions in famine years.

On the basis of the Guilá Naquitz excavations, Flannery believes that the first experiments with agriculture in Mesoamerica were attempts to alter the densities of specific plants. The deliberate planting of maize, beans, and squash began as a logical extension of people’s need to increase predictable food supplies in environments with irregular rainfall. In such climates, food supplies vary in abundance dramatically from one year to the next. A logical strategy is to experiment with the planting of such commonly eaten plants as wild beans and cereal grasses such as teosinte, the wild ancestor of domesticated maize that still grows in a few locations in Mexico and Nicaragua. Successful cultivation of small amounts of edible plants provided

more predictable food supplies. Successful experiments of this kind in many areas soon transformed the economies of Mesoamerica.

By perhaps 7000 B.C., the earliest domesticated maize can be identified from starch grains left on grinding stones at sites along the Balsas River valley that flows through Central Mexico. The modern teosinte populations biochemically most similar to maize still flourish in the central Balsas River drainage. The earliest maize cobs were small, no bigger than one joint of a human pinky finger, and not a staple crop by any means. It would take thousands of years of selective breeding to create the large cobs familiar in supermarkets today, and to develop strains that could thrive in the Andean uplands or the cooler climates of upper North America.

The earliest beans were domesticated at about the same time, with remains found in Guitarrero Cave in Peru, South America, dating as early as 6500 B.C. Domesticated beans this early have not been found in Mesoamerica, but wild beans are still found in Guatemala and genetic testing suggests that these Mesoamerican varieties may be ancestral to all later beans. Maize, beans, and squash were joined by a wide range of food stuffs including avocadoes, tomatoes, sunflowers, papaya, and prickly pear cactus. Some crops, like agave and cotton, could be used for food and textiles, and there were medicinal plants like tobacco.

Between 1960 and 1964, Richard MacNeish studied dry caves in the Tehuacán Valley of the Puebla Basin in the semiarid highlands. He discovered 24,000 maize fragments, as well as the remains of squash and beans in a series of sites spanning more than 6,000 years. A series of small cobs from his San Marcos cave excavations have been radiocarbon dated by AMS to about 2750–2650 B.C. Once established, maize farming spread rapidly throughout Mesoamerica and further afield. Maize appeared in the North American Southwest between 2000 and 1500 B.C. but as early as 4550 B.C. in northern South America (see Chapter 18). In contrast to the peoples of Eurasia and Africa, Mesoamerican agriculturalists never had the benefit of plow- and load-carrying animals like the camel, horse, or ox in aiding the processes of plant domestication and farming.

By 2000 B.C., sedentary villages were common throughout Mesoamerica, dispersed in small communities across highly diverse agricultural environments in both lowlands and highlands. Many farmers in more arid regions combined maize and bean slash-and-burn cultivation, called *milpa*, with foraging. They cleared small areas in forests and woodlands by felling

and burning trees, then fertilized the soil with the ash left from the fires. In the basin of Mexico, some communities used floodwaters and canals to bring lake water to their gardens. They piled up natural vegetation and lake mud to form grids of naturally irrigated fields near the lake shores. These plots were the ancestors of the extensive *chinampa* garden systems developed by later highland civilizations (Chapter 17). The people of the tropical lowlands used slash-and-burn agriculture like their highland neighbors. But some communities also developed small areas of raised fields in swampy locations, the predecessors of more extensive field systems used across many parts of the Maya region. In some areas, the sedentary villages became small towns, part of increasingly elaborate hierarchies of human settlement that were to develop in later centuries.

The ecological, geological, and biological diversity of the Mesoamerican environment, with its widely distributed food resources and raw materials, made everyone dependent on neighbors, communities living in very different surroundings. From the earliest times, exchange networks linked village to village and lowland groups to those living on the semiarid highlands or in the basin of Mexico. The same exchange networks spread compelling ideologies, which were to form the symbolic foundation of ancient Mesoamerican civilization.

THE FORMATIVE PERIOD: THE OLMEC (1500–500 B.C.)

The Mesolithic cultures of Eurasia had domesticated their crops and animals while already living in settled villages. But it was only after the domestication of the most important crops during the Early Formative period (more typically called the Early Preclassic in the Maya area) from around 2000 to 1000 B.C. that people in Mesoamerica settled into small hamlets inhabited year-round. In villages like Paso de la Amada, Chiapas and San José Mogote, Oaxaca and larger settlements like San Lorenzo, Veracruz many of the traits most typically associated with Mesoamerica took root: the ballgame, large earthen and stone platforms that would later give way to pyramids, and societies with powerful chiefs at the top of the political hierarchy.

In many regions there appeared small but powerful chiefdoms, headed by a ruler and a small cadre of associates. A similar pattern of greater social and political complexity arose in Mesopotamia, Egypt, China, and other areas

where early state-organized societies evolved. In Mesoamerica, as elsewhere, the new social complexity can be identified by differences in house designs, by the appearance of small shrines, and through prestigious trade goods such as stingray spines and seashells from the gulf coast that were used in bloodletting and other religious ceremonies. Here, as in other areas, control of trade in exotic, prestigious objects and knowledge of distant lands were vital to the ideology of chiefdoms. Such objects, and the ideology associated with them, symbolized and legitimized the authority of leaders to control both human and natural resources.

There was no one region where this emerging sociopolitical complexity occurred first. Rather, it was a development that took hold more or less simultaneously in many regions of Mesoamerica, not in isolation but with each region interacting with others. This process of interaction between neighbors—between communities and chiefdoms living in different environments—was a critical element in the development of the distinctive religious beliefs, art traditions, and economic and political institutions of Mesoamerican civilization.

In the tropical wetlands of Mexico's Gulf Coast, Mesoamerican cultures took an important new turn with the emergence of the Olmec around 1800 B.C. Famed for the creation of enormous "Colossal Heads" and monolithic thrones carved from basalt blocks, Olmec sculptors crafted the earliest pieces of truly monumental Mesoamerican art. The residents of Olmec capitals like San Lorenzo and La Venta also participated in the production and use of portable objects that exhibit a widespread artistic style encompassing pottery, "baby-faced" figurines, small carved greenstone objects, and other materials that are frequently, but controversially, also given the label "Olmec." Significant questions remain concerning the nature of rulership at Olmec capitals, the relationship of the Gulf Coast Olmec to the more widespread "Olmec" style, and the extent to which Olmec rulers—whether chiefs or kings—exerted their power and influence over regions outside the Gulf Coast region.

The name Olmec is a modern creation, derived by archaeologists from the sixteenth century A.D. Aztec term for the people of Olman, the rubber-producing region of the Mexican Gulf Coast. We do not know what the Olmec called themselves, though many suspect their language was part of the Mixe-Zoquean family found scattered across the Isthmus of Tehuantepec, the narrow waist of southern Mexico. The re-discovery of Olmec culture was

fortuitous, when in the 1850s a farm worker dug up the first known “Colossal Head” near the site of Tres Zapotes. Thinking initially that he had found an enormous overturned iron kettle, he soon realized it was instead a massive, multi-ton basalt sculpture.

The first systematic excavations of Olmec sites began in the 1930s directed by Matthew Stirling of the Smithsonian Institution. The fine artistry of the Olmec sculptures suggested to many scholars a relatively late date, perhaps contemporary with the Classic Maya. Stirling and his wife Marion transformed the Olmec chronology when they found Stela C at Tres Zapotes, inscribed with an early calendrical notation correlating to September 3, 32 B.C. The advent of radiocarbon dating in the 1950s pushed the Olmec yet further back in time, when Philip Drucker and Robert Heizer recovered charcoal samples at La Venta that yielded dates between 800 and 400 B.C.

Michael Coe and Richard Diehl subsequently used radiocarbon dates to demonstrate that San Lorenzo was the earliest Olmec capital, occupied during the Early Formative period (2000–1000 B.C.). San Lorenzo is the largest of a cluster of three sites, including Tenochtitlan (not the Aztec capital of the same name) and Portrero Nuevo, referred to collectively as San Lorenzo Tenochtitlan. Calibrated radiocarbon dates indicate that by 1800 B.C. settlers began the process of terracing, in-filling, and leveling a plateau that today rises 50 meters (164 feet) above the floodplain of the Coatzacoalcos River. People also built households and villages on the floodplain, constructing islotes, low earthen mounds that allowed them to take advantage of riverine resources while raising them above seasonal flooding.

Between 1400 and 1000 B.C. San Lorenzo reached its apogee. The core of the site covered roughly 55 hectares (136 acres) atop the plateau, with adjacent settlement encompassing 500 hectares (1,235 acres). As many as 5,500 people lived at San Lorenzo, with an additional 8,000 people in dozens of outlying communities. Faunal remains and paleobotanical data such as pollen indicate that the growing population consumed the seasonally varied wild offerings of stream, fields, and woodland and relied on domesticates including maize, beans, squash, chilies, manioc, sunflower, and tree crops like avocados. Chemical traces left on pottery at San Lorenzo also reveal that cacao was being used to make a beverage by the Olmec.

The first identifiable public architecture was built during this period of growth. The site’s inhabitants constructed large, low clay platforms including the “Red Palace,” with specially sifted red sand over earthen floors, basalt

benches, and basalt columns up to 4 meters (13 feet) high that once supported a perishable roof. Elaborate stone-lined drains crossed the site, some fed by a well or cistern. These may have drained water away from architecture, but some are associated with a sunken patio perhaps evoking the Mesoamerican watery underworld of ancestors and deities.

The power and authority of Olmec rulers is represented materially by the monuments crafted in their honor. Enormous basalt blocks—some over 25 tons—were hauled to San Lorenzo from the Tuxtla Mountains, 100 kilometers (62 miles) to the northwest, and carved into at least ten Colossal Heads, monolithic thrones, and many smaller monuments. People moved these boulders across swampy terrain using muscle power, levers, and wooden rollers, without the benefit of paved roads, draft animals, pulleys, or wheeled vehicles. Many scholars have argued that transportation was facilitated by rafts moving along coastal and inland waterways. However, recent models suggest that to move such blocks via water routes would likely see the rafts swamped or run aground and the basalt lost.

The monuments were carved on site at San Lorenzo, and the heads aligned in two parallel rows on a north-south axis. Each has a distinct visage, and their helmet-like headgear carry unique insignia, marking them as portraits of the Olmec rulers. Some of these same men are also carved in deep relief on monolithic thrones emerging from a niche. The niche represents a cave, the entrance to the underworld, shown as the fanged mouth of a living earth-monster that forms the seat of the throne. Thus, the ruler seated on the throne sits in a position of power atop the earth, depicted as uniquely capable of crossing into the supernatural underworld.

Intriguingly, many of the monuments were intentionally battered, drilled, and broken. There is no consensus about why, but rather than desecration, the destruction of monuments may have respectfully and ritually ended the lives of these powerful objects even as the rulers they depicted had died. Some of the damage, though, may have resulted from recycling a scarce resource. At least two Colossal Heads show remnants of what were once the niches of monolithic thrones, suggesting the repurposing of one monument into another.

Giant basalt blocks were not the only imports to San Lorenzo. More than 6 metric tons of drilled ilmenite (a titanium and iron ore) cubes have been recovered from pits on the plateau. The purpose of these cubes remains a mystery, but given the effort required to import them in great quantities from

western Chiapas they were highly valued. By 1800 B.C. obsidian was imported from the Orizaba volcano 300 kilometers (185 miles) to the northwest, and from more distant sources in Guatemala, 600 kilometers (370 miles) to the southeast. Magnetite for polished stone mirrors, as well as jade and other greenstones like serpentine, was similarly imported from distant southern sources. The picture, then, is of extensive trade links cutting from the Gulf Coast across the narrow Isthmus of Tehuantepec into Chiapas and Guatemala, perhaps involving Olmec trading enclaves at sites like Paso de la Amada or Canton Corralito in Chiapas.

Exports may have included perishable products such as cloth, rubber, or wooden objects. Artifacts excavated from the muck of a spring called El Manatí, 15 kilometers (9.3 miles) southeast of San Lorenzo, give us a small glimpse of what has been lost. Thirty-seven wooden busts were preserved by the waterlogged, anaerobic conditions of the mud, along with twelve rubber balls that provide direct evidence of the Mesoamerican ballgame. Also exported from the Gulf Coast was bitumen, natural tar that could be used for decoration, as an adhesive, and as a waterproof sealant on canoes. Bitumen is easily harvested from surface seeps in a region that is the heart of modern Mexico's petroleum industry.

Materials analyses also indicate that carved gray pottery made in and around San Lorenzo was exported to Oaxaca and other regions. Some archaeologists argue that the symbols on such pots helped disseminate religious and political concepts from the Olmec heartland to other Mesoamerican communities. However, some of the imagery and artifacts traditionally associated with the "Olmec" cannot be directly attributed to San Lorenzo, La Venta, or other Gulf Coast centers.

Much of what is often called Olmec iconography or material style, including images of human/animal transformation and so-called "were-jaguars" with down-curving or snarling mouths on youthful faces, can be found on portable artifacts across Mesoamerica. "Olmec"-style greenstone masks are known only from contexts outside the Olmec heartland. So, too, the hollow white, baby-faced figurines long considered representative of the "Olmec" style were made in Puebla, outside the Gulf Coast. It is thus difficult to establish whether many stylistic elements and artifact categories called "Olmec" were innovated in the Olmec heartland and spread outward, or instead represent broadly shared Mesoamerican patterns.

By the beginning of the Middle Formative period (1000–400 B.C.), San Lorenzo was eclipsed by other centers, including Tres Zapotes and most significantly La Venta. We do not know why the rulers of San Lorenzo saw their authority dissipate and populations disperse. Tres Zapotes and La Venta were never tightly integrated politically or economically with San Lorenzo, and perhaps the growing power and affluence of these younger settlements reoriented the axes of trade, wealth, and authority. Indeed, the Middle Formative period saw the emergence of monumental centers in many regions of Mesoamerica.

La Venta thrived as a major regional capital for five or six centuries, and grew to encompass perhaps 200 hectares (495 acres) including surrounding settlement, though modern construction has made mapping the whole site or estimating its population impossible. Its central architecture is dominated by a north-south axis of buildings, centered on a single pyramid 34 meters (110 feet) high. Residential and public buildings are arrayed in formal plazas to the south of the pyramid, while more restricted spaces lie to the north. La Venta continued the Olmec traditions of Colossal Heads and monolithic altars honoring rulers, but artists also innovated new monumental formats, including stelae. Such standing stones provide a broad flat surface to convey messages of authority, and by 500 B.C. some of these monuments were incised with an important new technology: writing.

At the northern end of the site, Complex A, La Venta's rulers invested truly impressive energy and wealth on rituals. Complex A is ringed by imported basalt columns, and three of four of La Venta's Colossal Heads are found there. Basalt columns and a carved sandstone sarcophagus define two of five elaborate burials found in Complex A. Though these interments included rich offerings, the tropical soil has destroyed any bone making it impossible to identify the occupants.

Perhaps most impressive, however, are the buried deposits of Complex A. Three mosaic pavements carefully arranged in mask-like forms, measuring about 4.5 × 6 meters (15 × 20 feet), composed of nearly 500 blocks of imported serpentine, were buried upon completion using finely sifted colored earth. There are also dozens of caches, buried deposits of jade, polished stone mirrors, and in one case perhaps 50 tons of serpentine blocks. The precise meaning of these deposits eludes us, though they are clear evidence of the sorts of imported wealth at the disposal of La Venta's rulers. By 400 B.C. La

Venta, too, had been abandoned for reasons that remain opaque, marking the end of the archaeological culture we identify as Olmec.

The Olmec left a powerful legacy of art, architecture, and ideology. They were not the mother culture of Mesoamerican civilization but were an important catalyst for the elaborate cultural developments that followed. Their ideas of rulership and governance, as well as religious beliefs represented by imagery such as that of the "feathered serpent," spread rapidly. By 300 B.C., late Preclassic societies were changing rapidly as common ideologies united much of Mesoamerica. The leaders of the new political order validated their rule with elaborate public ceremonies in spectacular architectural settings, commemorating potent and widely recognized deities. Distinctive art and architecture accompanied the new religion, the practice of which required precise measurements of calendar years and longer cycles of time. Writing and mathematics were developed to affirm religious practices, a unifying political force in the sense that they welded scattered village communities into larger political units.

FIGURE 16.2 Basalt Colossal Head (La Venta Monument 1) from La Venta measures 2.41 meters × 2.08 meters × 1.95 meters (7.9 feet × 6.8 feet × 6.4 feet) deep, and weighs 25 tons. It is now located in the Parque La Venta in Villahermosa, Tabasco. Such portraits of Olmec rulers are identified as individuals by their distinct faces and medallions on their helmet-like headdresses that may represent their names. Charles Golden.

FIGURE 16.3 A basalt Olmec throne (called “Altar 4”; 1.6 meters/5.25 feet tall) from La Venta depicts a lord emerging from the flowered mouth of a cave, a place of origin and vitality. He holds a rope that binds prisoners carved on either side of the throne. Now located in the Parque La Venta in Villahermosa, Tabasco. Charles Golden.

By the time the Classic period Mesoamerican civilizations of highlands and lowlands arose, dynasties of lords had been ruling Mesoamerica along well-established lines for nearly 1,000 years. A broadly similar pattern of emerging social and political complexity appeared in Mesopotamia, Egypt, China, and other areas where early state-organized societies evolved. Such patterns are well illustrated by Maya civilization.

PRECLASSIC MAYA CIVILIZATION (BEFORE 1100 B.C.–A.D. 200)

The time period known as the Formative elsewhere in Mesoamerica is typically referred to as the Preclassic in the Maya regions of southeastern Mexico and northern Central America. We now know that the Middle and Late Preclassic periods were eras of unprecedented growth in population, innovative artistry, and experimentation with writing and systems of rulership across southern Mesoamerica. Sites like Izapa in Chiapas, Mexico and La Mojarra in Veracruz were not occupied by Mayan language speakers, but nonetheless exhibit writing, depictions of rulers, and notions of monumentality that profoundly influenced Maya-speaking areas. Settlements

probably occupied by Maya populations including Ujuxte, El Baul, and Tak'alik Ab'aj on Guatemala's Pacific coast and Kaminaljuyu, largely buried under modern Guatemala City, grew to impressive scale. The styles of their earliest monuments hint at connections with other areas of Mesoamerica, including the Olmec region. Out of this period of artistic and political dynamism, the Maya Lowlands gave rise to their first monumental centers.

Domesticated maize is evident in pollen from sediment cores in the Maya area that date as early as 3000 B.C. But settled village life is otherwise archaeologically undetectable until about 1400–1200 B.C. in most of the region. Even as the Olmec centers of San Lorenzo and La Venta grew to unprecedented size in the Early and Middle Preclassic periods, only relatively recently have archaeologists identified any similar growth in monumental centers of the Maya region. Among the earliest ceremonial/public architecture yet found in the Maya Lowlands is that of Ceibal on the Pasion River in Guatemala's Petén. The residents of Ceibal built large platforms carved from bedrock and heaped with soil as early as 1000 B.C. Ceibal's inhabitants shared much ritually and architecturally with sites to the north and west in Chiapas and Tabasco, Mexico, and were likely in contact with the contemporary Olmec centers of the Gulf Coast. Recently, complexes of monumental platforms dating from about 1100 to 800 B.C. have been found scattered across Tabasco by Takeshi Inomata and Daniela Triadan, the excavators of Ceibal. The largest structure is a platform at the site of Aguada Fenix, which measures an enormous 1,400 × 400 meters (4593 x 1312 feet), with a mass of 3,200,000–4,300,000 m3 (4,185,442–5,624,188 cubic yards). Inomata, Triadan, and colleagues estimate this edifice required 10,000,000–13,000,000 person days to complete, making it the largest pre-Columbian Maya construction yet identified. These monumental constructions provide a spatial, cultural link between the Olmec and Maya regions. Yet Inomata and Triadan argue that the populations that built these earliest platforms in Tabasco and at Ceibal were not fully settled villagers, pyramidal structures are absent from these sites, and there is no evidence of the sorts of monumental sculptures dedicated to rulers that mark the Olmec capitals. All of this gives us a sense of the variation in governance and organization present in early lowland Mesoamerica.

By 800–600 B.C., however, large stone-faced platforms were appearing in the Mirador Basin at the site of Nakbe built by people living in large agricultural communities. Tikal and Calakmul—cities that would dominate

the politics of the first millennium A.D. in the Maya area—were also settled, but they remained small neighbors of the rising Mirador Basin sites. Maya rulers in this period are probably better thought of as chiefs rather than kings. No monumental artwork or tombs focusing on these leaders have been found. Nonetheless, workers were organized in great numbers to build temples and pyramids, and the growing network of settlements across the Maya area encouraged a far-flung trade in obsidian from the Guatemalan highlands as well as salt, fish, and shells from the Caribbean and Pacific coasts. Forest products like cacao (chocolate), feathers, vanilla, animal pelts, and woven fabric more surely flowed out from the Petén, but these perishable goods leave fewer archaeological traces.

The pyramids at Nakbe reached unprecedented heights of up to 18 meters (59 feet) between 600 and 400 B.C., and stone monuments were being carved and dedicated at Nakbe, El Mirador and other centers in the Mirador Basin. Ballcourts also appeared at Nakbe and elsewhere, including far-distant Tak'alik Ab'aj on the Pacific coast, linking the Maya into this fundamentally Mesoamerican ritual sport. By 350 B.C., though, Nakbe had been eclipsed in size and political importance by neighboring El Mirador, some 13.6 kilometers (8.5 miles) away.

The architectural core of El Mirador runs along an east-west axis, with buildings situated atop low rises surrounded by seasonally inundated swamps known called *bajos*. During the Late Preclassic period the city grew to encompass an area 4–5 square kilometers (1.5–1.9 square miles). El Mirador's monumental architectural core covered approximately the same space as that of Tikal during its peak in the eighth century A.D. Yet the largest buildings at El Mirador were far more imposing than the pyramids and palaces at Classic period Tikal. The map of El Mirador is dominated by two great architectural complexes: El Tigre in the west and Danta in the east.

These follow a pattern common to Late Preclassic Maya centers, with large multi-terraced platforms topped by three buildings ("triadic groups"), typically a larger central edifice flanked by two smaller structures facing onto a shared courtyard. The largest of the triadic pyramids at El Mirador, the Danta group, has a base measuring 320 × 600 meters (1,050 × 1,969 feet), and at its pinnacle towers an imposing 72 meters (236 feet) above the forest floor. To put this in perspective, the base of the Danta platform is larger than that of the Great Pyramid of Giza (though it did not rival the 139 meters (456 feet) height of its Egyptian counterpart). Other sites in the Mirador Basin,

including once-dominant Nakbe, also witnessed the construction of enormous triadic complexes, some nearly as large as those at El Mirador.

The ruined exteriors of the buildings at El Mirador today are covered in tumbled-down stones, soil, and trees. But the Maya built their pyramids in many layers, encasing earlier buildings as they raised new edifices. The result is a sort of architectural onion that archaeologists can peel back layer from layer to reveal many episodes of construction. Spared the ravages of exposure to the elements, these earlier layers at El Mirador and other Preclassic Maya centers sometimes offer a glimpse of their original facades, covered in enormous modeled and brilliantly colored masks and friezes depicting deities and mythical scenes, all rendered in stucco made from quicklime, sand, and water.

Residential settlement mapped outside the monumental core of El Mirador is more widely dispersed than at large Classic centers, suggesting lower population densities. Our understanding of Preclassic Maya houses remains limited, however, largely because they are often obscured by later construction or sedimentation. As a result, most estimates for El Mirador's population are very approximate at best, based on calculations of working days necessary to build its enormous buildings. Certainly, though, populations at maximum must have numbered in the tens of thousands.

A remarkable network of causeways radiates outward from the hub of El Mirador. Some are up to 4 meters (13 feet) high, 40 meters (131 feet) wide, and 30 kilometers (18.6 miles) long, and many are visible in aerial and satellite images as raised lines in the jungle. These roads provided links to smaller centers around El Mirador, facilitating the movement of people and materials above swampy ground that was otherwise impassable during the long rainy season. Though each connected site may have nominally functioned as an independent capital, El Mirador's rulers probably dominated their neighbors politically and economically. Among those places tied by roads to El Mirador were once-dominant Nakbe, as well as Calakmul, which centuries later would rival Tikal for political supremacy in the region.

Evidence of Early Maya Kingship

The precise nature of Preclassic Maya rulership continues to elude researchers. Fragmentary inscriptions at El Mirador are poorly preserved and difficult to decipher, and few if any of the sculpted monuments or stucco

facades depict human rulers. Yet the remarkable discovery by William Saturno of a buried Preclassic temple with well-preserved murals and writing at the small center of San Bartolo, 58 kilometers (36 miles) southeast of El Mirador, offer a glimpse of a mythical origin story leading to the seating of a ruler on a throne with his courtly regalia. Careful conservation and recording of the murals uncovered nine mythological figures, the principal among them the bejeweled maize god, whose head replicates the foliation of the corn plant (Figure 15.4). His arms are outstretched as he turns his head and looks at the woman kneeling behind him, who also has her hands upraised. Another female figure with black hair seems to float above her. A kneeling man is in front of the Maize God, while other figures seem to form a procession. This narrative of the Maya creation legend is the earliest known, although familiar from the mythological art of much later centuries. All of this sets the stage for what appears to be the coronation of a ruler probably named in an accompanying text. Scholars cannot yet decipher the painted text in the mural because these glyphs are too different from the later and well-deciphered Classic-period Maya script. One glyph that can be read, however, is that for *ajaw*, meaning "lord" or "king." Radiocarbon dates for the paintings give readings between 400 and 200 B.C., making the San Bartolo paintings the earliest Maya mural art known.

At the small Preclassic center of Cuello, in eastern Belize, Norman Hammond uncovered yet more archaeological evidence for hierarchical rulership. Cuello began as a small village, perhaps as early as 1000 B.C. Around 400 B.C., the villagers converted their ceremonial precinct, with its wood and thatch temples, into a large public arena. They burned their existing shrines, tore down their facades, and desanctified them; then they filled the square with rubble to create a raised platform covering more than an acre. Hammond unearthed the fragmentary skeletons of more than thirty sacrificial victims in the rubble, some with hacked-off skulls and limbs, others sitting in a circle around two young men. Six carved bone tubes buried with the victims bore the interlacing, woven-mat motif symbolic of royal thrones for later Maya kings.

The concept and practice of kingship continued to spread. In 50 B.C. the small, late-Preclassic town of Cerros on the northeastern coast of Belize was a modest fishing and trading community. But within two generations, the tiny community transformed itself into a large center. The village disappeared under plazas and temples. The central precincts became a ceremonial center,

transformed by giant stucco deity mask that flanks the pyramid staircases into a sacred, symbolic landscape that framed the ruler who ascended the temple. Everyone in the community helped to build the ceremonial structures. Later shrines followed the first temples, all of them settings for the ritual bloodlettings and sacrifices that served to legitimize the roles of the community's rulers. If kingship was present at tiny San Bartolo, Cuello, or Cerros, sites like giant El Mirador and its hulking neighbors undoubtedly also had monarchs and flourishing royal courts by the end of the Preclassic period.

FIGURE 16.4 An aspect of one of the Maya hero twins makes an auto-sacrifice of blood from his penis in a Preclassic mural at San Bartolo, Guatemala. Danita Delimont/Alamy Stock Photo.

FIGURE 16.5 The difficulties of Maya archaeology. (a) El Mirador is mantled in thick forest cover. Brian Fagan. (b) An El

Mirador temple complex exposed during excavations. Brian Fagan.

(a)

(b)

Radiocarbon dating of organic remains and an abrupt break in the ceramic chronology indicate that by A.D. 150, El Mirador had entered a period of precipitous decline and was soon largely depopulated. Although it was reoccupied on a smaller scale in the period from A.D. 600 to 900, it never regained its former political stature. Its failure was part of a wider pattern that saw many once-thriving cities and towns abandoned at the end of the Preclassic period. This collapse in some ways foreshadowed the later Maya collapse of the eighth and ninth centuries A.D., yet it would appear that the failure of so many political communities and Preclassic capitals opened social space for the growth of places like Tikal and Calakmul that had long stood in the shadow of El Mirador.

As with so many other instances of collapse, researchers struggle to explain the Preclassic-period failure. Warfare may have played a role. Moats and palisades dating to the end of the Preclassic have been found at sites across the Maya area, including El Mirador. Even at smaller sites the evidence for conflict is clear. Perched high on a hilltop above the Usumacinta River, the residents of the small center of Macabilero maintained reservoirs to withstand a siege, and protected themselves behind high walls, and deep chasms, armed with piles of slingstones to ward off attackers. At least one individual did not make it; a mandible radiocarbon dated to A.D. 73–226 was found in a cave below Macabilero with cuts indicating that its owner had suffered a decapitating blow to the back of the head. Warfare, though, probably always played a political and economic role in the life of Maya kingdoms, as it does in all societies, not just at times of collapse.

Environmental studies also suggest that efforts to support large populations resulted in the devastation of water and soil resources. Large numbers of trees were felled to make space for agricultural fields and to provide fuel for the vast quantity of lime plaster used to cover pyramids, palaces, and plazas. Lake sediments reveal that, as a result of such deforestation, erosion occurred more rapidly during the Late Preclassic period than at any other time in southeastern Mesoamerica. Such dramatic environmental changes may have made it impossible to sustain dense populations until the forest had a chance to recover, and new technologies of terracing and field management were implemented in the Classic period.

CLASSIC MAYA CIVILIZATION (A.D. 200–900)

The so-called Classic period was an era of booming cities across Mesoamerica. Teotihuacan in Central Mexico would grow to dwarf any other city in Mesoamerica and see its cultural reach extend from its heartland well south into Guatemala. In Oaxaca, the hilltop city of Monte Alban held sway over surrounding valleys. In the Maya region, the collapse of Preclassic cities like El Mirador seems to have made room for new cities and new political organizations to emerge as kingdoms such as those ruled from Tikal, Palenque, and Copan grew to wrestle with one another for control over the Maya region. Art flourished as sculptors, masons, potters, painters, and plasterers innovated new forms to serve the royal court. Vividly painted pottery bearing texts, and lavish murals conveyed mythical and historical cycles. The defining characteristic of the Classic period in the Maya region is the appearance of rulers bearing the title "K'uhul Ajaw" or "Holy Lord," whose dynastic histories were inscribed on stone monuments. The K'uhul Ajaw was the nexus of the kingdom, and the pivot of political and religious life. Calendrical "Long Counts" centered the ruler in cosmic histories of truly staggering scale (Box 15.1).

Maya lords used both the awesome regalia of their office and elaborate rituals to stress their close identity with ancestral gods. This was a way in which the kings asserted their kin relationship to and political authority over subordinate leaders and every member of society. The Maya calendar ensured a constant round of ceremonies and rituals at the great ceremonial centers erected by the labor of hundreds of people, supported by farmers who also brought food to market, and supplied rulers, priests, and artisans.

The Maya worldview created serious and binding obligations among the king and his nobility and all the people, reflected in the king's responsibilities in conducting public ceremonies, leading military expeditions, and implementing agricultural schemes that turned swamps into organized, productive landscapes. The lives of Maya rulers and all their subjects were interconnected in vital, dynamic ways. The great ceremonial centers built by Maya leaders during the Classic period created a setting in which elaborate rituals and ceremonies focused the political community on the person of the dynastic ruler. The "histories written and pictured by the kings on the tree stones [stelae] standing before human-made mountains [temple-pyramids] gave form to time and space in both the material and spiritual worlds"

(Schele and Freidel 1990, 319). The Classic period began with the rise of holy lords, and ended with the political collapse of the eighth and ninth centuries A.D., when new forms of governance emerged and the cities that had once served as the dynastic seats of the K'uhul Ajaw were abandoned.

The Maya Calendar and Script

We live in a modern world that is highly regulated by clocks and calendars that regulate air and train travel, tells us when to work, celebrate, study, or sleep. Calendars are something we take for granted, but they are complex technologies that have required invention and innovation to develop. Calendars are also powerful political tools. Observations of the movements of the sun, moon, and stars were recorded by humans even when all societies were those of mobile hunters and gatherers. The regulation of time using calendars, though, has long been a fundamentally important part of governance in state-level societies. Calendars help rulers and bureaucracies to coordinate large populations, letting farmers know when to plant and harvest, suggesting to soldiers auspicious times for battle, and regulating when taxes are paid to officials. Precisely when such calendars developed in Mesoamerica and in which civilization is impossible to say. The earliest writing known from Oaxaca, the Isthmus of Tehuantepec, and the Maya region date to the mid-first millennium B.C. and exhibit calendrical dates. Ritual calendars offered prophecies and omens, and guided daily interactions with otherworldly powers. Indeed, so profoundly important were these calendars to people's daily lives that some are still maintained alongside the Christian calendar by indigenous communities in Mexico and Guatemala (see Box 16.1).

Box 16.1 Discoveries *Mesoamerican Calendars*

The calendar systems recorded in Mesoamerica differed in many specifics across civilizations, but also shared similarities cross-culturally. Calendrical cycles inscribed on stone, painted in murals, and set down in paper books recorded the dynamic movements of the sun and moon, as well as those of the stars and planets like Mercury, Jupiter, Venus, Saturn, and Mars. For Mesoamericans time was something

physical, with weight and substance. Maya glyphs depict calendrical cycles as heavy, living burdens slung over the back of other beings.

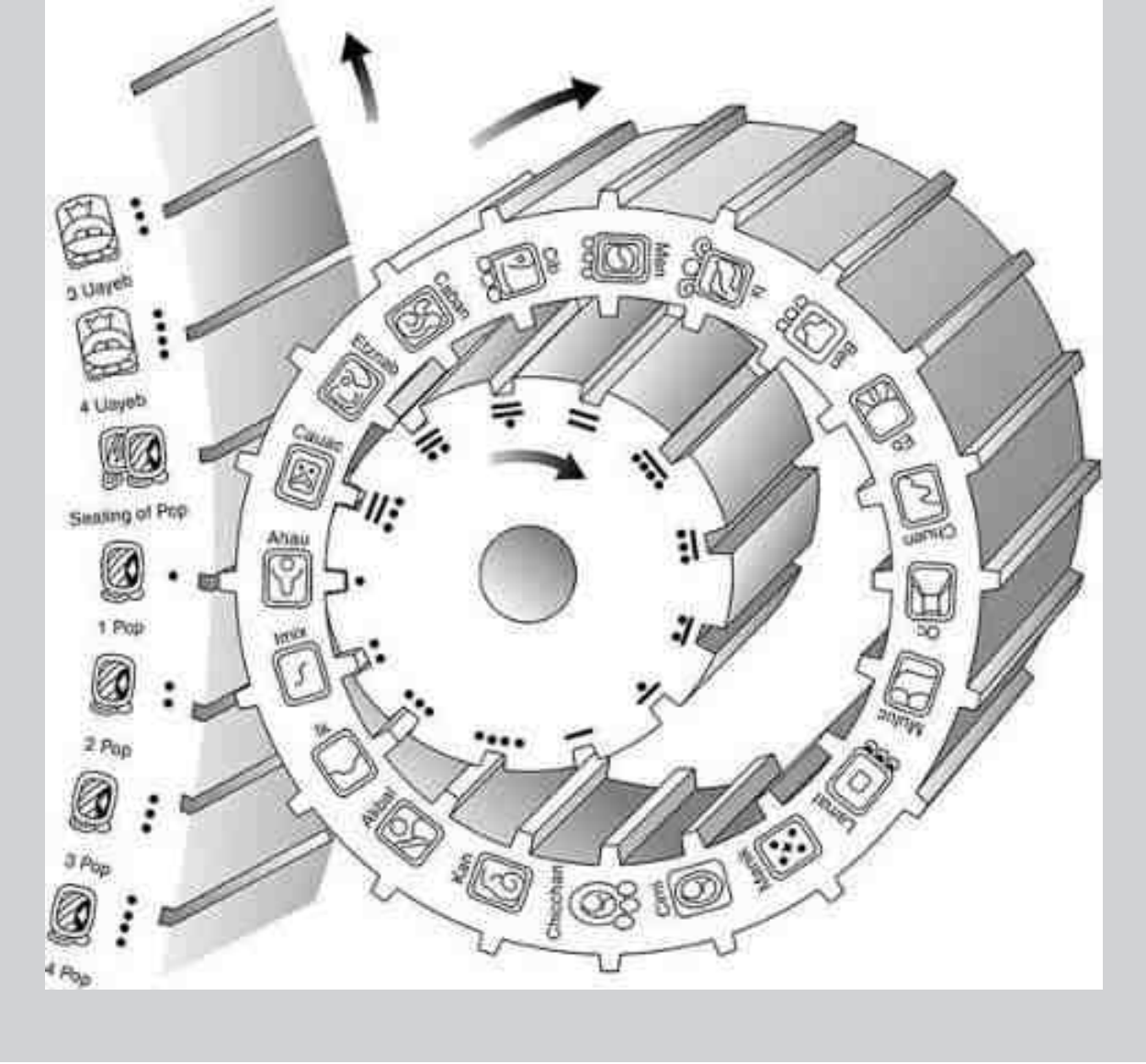
Many Mesoamerican peoples relied on a conjunction of two distinct calendars. One was a "sacred almanac" of 260 days, called the *tzolk'in* by scholars of the Maya, or *tonalpohualli* for the Aztec. It is perhaps most convenient to think of this as a set of gears in which one smaller cog with the numbers 1 through 13 rotates against another gear with a series of twenty day names. As the numbers rotate, so do the day names. Thus, for the Aztec calendar, the first five of the twenty day names translate as "crocodile," followed by "wind," "house," "lizard," and "snake." The day "1 Crocodile" by "2 Wind," then "3 House," "4 Lizard," "5 Snake," and so on until the last day name in this thirteen-day week, "13 Flower." Then the cycle moved on to "2 Crocodile." Though the day names differ between cultural groups, and changed through time, the basic concept was the same. These days were associated with omens and prophecies. A child was greatly influenced, for good or ill, by the character of the day on which he or she was born and people were often named for their birthday.

The 260-day calendar was often paired with a 365-day solar year (called the *ha'b* for the Maya or *xiuhphualli* for the Aztec) with 18 months of 20 days each. Among the Maya these ran from 1 to 19, and then the next day saw the "seating" of the coming month. Thus, for example, if the Maya ha'b began in the month called *Pop*, the first day would be 1 Pop, then 2 Pop, 3 Pop, and so on until 19 Pop, at which point the next day would be the "seating" of the month *Wo* on 0 Wo, followed by 1 Wo. This combination of eighteen days and twenty months yields 360 days, but Mesoamerican scribes were well aware that a solar year was just a bit more than 365 days long. To round out the cycle, therefore, five (morally ambiguous and dangerous) extra days were included.

These two systems were often integrated into a "Calendar Round," pairing the date from the 260-day calendar with that of the 365-day calendar. This is often depicted as a series of intermeshed gears, though such a representation is a modern creation (Figure 15.6) Thus, in the Maya calendar a date might be read 1 Ik 0 Pop (Ik' being the day, Pop the month). Because of the way the different cycles of the two calendars mesh with one another, only four day names in the 260-calendar ever

appear at the beginning of the 365-day year. These four days were "Year-Bearers," beings who literally carry the weight of time on their shoulders. Yet another result of meshing the 260-day and 365-day cycles is that any Calendar Round date will only appear once every 52 solar years. There is little evidence for the significance of this 52-year cycle for the Maya. However, for the Aztecs the end of such a period was a moment that required a New Fire Ceremony, in which households were cleansed and people fasted, sacrifices were offered, and ritual hearths were set ablaze to ensure that the calendar, and time itself, would continue onward.

FIGURE 16.6 The Maya calendar represented for modern viewers as a set of cogs in which the 365-day solar calendar (left) meshes with the 260-day lunar calendar (right).



To record events at truly grand scales, the Maya and some other Mesoamerican civilizations implemented the “Long Count.” Long Count dates first appeared on monuments from several cultures at the end of the first millennium B.C. in Southern Mexico and the Pacific coast of Guatemala, though by the early first millennium A.D., such dates were recorded only by the Maya. The Long Count is composed of five units: bak’tuns (144,000 solar days), k’atuns (7,200 days), tuns (360 days), uinals (20 days), and kins (1 day). These are combined into a date commonly written by scholars as a series of five numbers separated by periods, for example 13.0.0.0.0 that is simply shorthand for glyphic inscriptions using bar-and-dot numeration and the associated glyph for each calendrical unit. The Long Count was, in turn,

often combined with the appropriate Calendar Round date. So, for example, the date 13.0.0.0.0, 4 Ajaw 8 Kumku records the beginning of the Maya Long Count cycle, which repeats only every 5,128 solar years. Using Spanish colonial records together with celestial observations recorded in ancient inscriptions, it is possible to correlate the Christian calendar with these Long Count dates. Thus, we know that the previous Long Count cycle began on August 14, 3114 B.C., and ended only on December 24, 2012, before beginning anew.

Even this 5,128 year Long Count was only one cycle within many. During the Classic period, Maya scribes recorded events millions of years into the past or future. What was the point of the Long Count and larger calendrical cycles? As inscribed on stone monuments like those of Tikal, the Long Count centered the life of a Maya ruler around which other events recorded in the near or distant past and future pivoted. Standing at the nexus of such events, Maya rulers of the Classic period were framed quite literally as the center of history.

Maya calendrical inscriptions were only one part of a hieroglyphic script system that was critical for recording genealogies, king-lists, conquests, and rituals. Hieroglyphic records were of cardinal importance in Maya political, ritual, and community life. Inscriptions allowed for the careful documentation (or reconstruction) of dynastic genealogies. Painted pots show scribes carefully jotting down the counts of tribute brought to royal courts from loyal subjects. Painted texts on building walls depict market exchange at Calakmul, or reveal priestly training at the site of Xultun. We know from painted images and from four remaining physical examples that much of pre-Columbian Maya literature must have been recorded on folding bark paper books, prepared with a white gesso coating before being painted. This was a codex, and there must have been many thousands once held in royal courts and by village scribes. Council books and ritual texts were held by some Maya communities in Mexico and Guatemala to the present, transcribed from hieroglyphs into Latin script at some point in the past.

Owing to poor preservation conditions of tropical climates, and the destruction wrought by Spanish friars like Diego de Landa who saw such codices as containing the works of the Devil and burned them by the hundreds in bonfires, we do not know to the full extent of the content they once held. The four fragmentary examples that survived the Spanish Conquest are largely ritual and calendric in nature. Nor do we know the

extent of literacy among the Classic period or later Maya peoples. Certainly some of the dates and names, rendered on glorious public monuments and sometimes in large scale, were visible to a wide audience and must have been somewhat legible at least in terms of their general meaning. Yet the privileged political role of Maya scribes well into the Colonial period suggests that true literacy—the full mastery of script reading and writing—was likely restricted to a highly trained elite. One hint of the challenges of learning the system comes from the western Maya city of Piedras Negras, where artists practiced nonsense glyphs on building stones in a rare example of scribal training reminiscent of Mesopotamian scribal schools with their practice tablets. After more than a decade of intensive research, the extant Classic inscriptions have been largely deciphered in that we can read the words and phrases encoded. Some of the cultural meaning, though, and even the readings of some symbols continue to elude expert (Box 16.2).

Box 16.2 Voices *The Decipherment of Maya Script*

The decipherment of Maya script ranks among the greatest scientific achievements of the twentieth century. The first person to record the elaborate glyphs was Spanish Bishop of Yucatan, Diego de Landa in the sixteenth century. Landa was a controversial figure, who studied traditional Maya life, on the one hand, and persecuted the Indians ruthlessly in the name of the Inquisition, on the other. He destroyed hundreds of folding, bark-paper books (called codices) but nonetheless recorded some of what he believed to be the alphabet of the Maya script system, which was quickly being forgotten under the onslaught of colonial transformations. Although travelers recorded the stone inscriptions across the region, they did not know what they were looking at and it was not until Alfred Percival Maudslay and Annie Hunter recorded thousands of glyphs accurately through casts and scientific drawings in the 1880s and 1890s that an adequate body of inscriptions was widely available for serious study. For generations, the experts argued over whether Maya glyphs were iconographic picture writing or phonetic script. Dates could be distinguished mathematically from sequences of numbers, but were the rest of the texts historical records or merely mythical cycles and astronomical observations? (See Box 16.1.)

Two breakthroughs in particular revolutionized the field. First, in 1952 Russian epigrapher Yuri Knorosov demonstrated that Landa's supposed alphabet was actually a syllabary. Maya script could now be understood to be logo-syllabic, using syllables to form words, complemented or substituted for at times by logograms—a single symbol encoding a single word—much like Egyptian writing. So, for instance, the word "pakal" (shield) might be written syllabically: pa-ka-la (the final "a" dropped in speaking). The same word could also be written with a single image—a logograph—meaning shield. Or, it could be written as a logograph with the syllable "la" attached at the end, giving the reader a hint as to the sound of the logograph.

A decade later, Tatiana Proskouriakoff observed that patterns of glyphs on stelae at the site at Piedras Negras formed distinct patterns in which particular glyphs seemed to mark events at the beginning, middle, and end of a series of monuments that all could be dated within a normal human lifespan. Though she could not decipher the texts entirely, Proskouriakoff realized that these events must represent the birth, accession, and death of once-living men and women who governed the city. She applied this same method to the dynastic history of nearby Yaxchilán, and suddenly Maya lords emerged from myth to once again become individuals with historical identities.

From these initial insights, epigraphers were able to work out the dynastic histories of many other cities. Names emblazoned on stelae, lintels, and panels allow Maya archaeologists to attribute individual buildings to specific royal patrons. Decades of intensive team work have since resulted in the broad decipherment of Maya script, although many difficult subtleties remain to be resolved. We now know that Maya scribes developed multiple writing systems between 300 B.C. and A.D. 150. Early texts are found in the Guatemalan highlands at Kaminaljuyu and El Porton, on the Pacific coast at Abaj Takalik, and in the Southern Lowlands at El Mirador and San Bartolo**.** The examples at San Bartolo are the earliest of these, radiocarbon dated between 200 and 300 B.C. The poorly understood texts from each of these sites share individual signs, calendrical cycles, and numbering systems with one another and with Isthmian script, yet none is identical to any other as a whole.

It is not until around 250 A.D. that Maya script was codified over a wide area, recording a ritual language (functioning much like Latin in

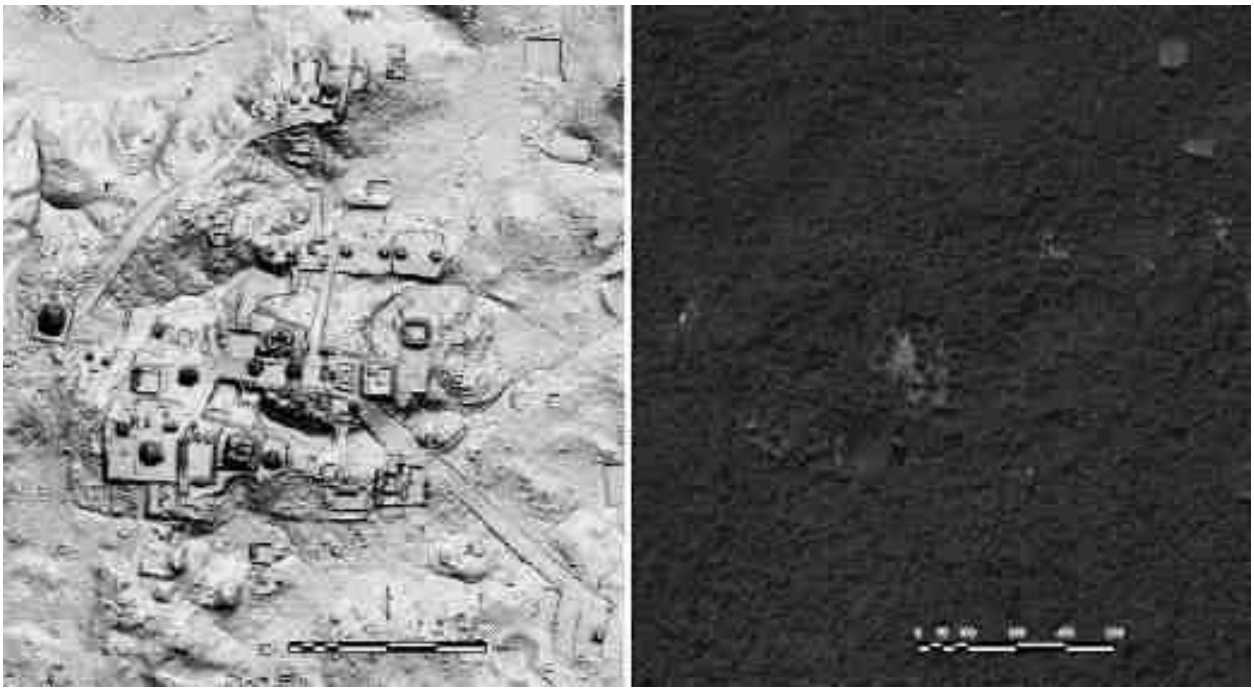
the Catholic Church) most closely related to modern Chorti Maya. For the most part, the inscriptions left to us on stone monuments, and portable art including bones, pottery, shell, and more represents statements of royal accessions, triumphant military campaigns, and important ceremonies and sometimes serve as name-tags, identifying the person in whose honor the objects were inscribed. They are the political propaganda of Maya lords, the writings of a nobility intent on justifying their deeds and their ancestry. Of the everyday literature of the Maya, we know nothing. Instead, the surviving texts tell us that Maya rulers presided over a patchwork of competing city-states, often at war with one another. Decipherment has revealed Classic period Maya politics as a dynamic world of diplomatic marriages, political alliances, and military conquests. The account of Maya civilization here is based on both archaeology and deciphered glyphs.

FIGURE 16.7 The ball court at Copán. DEA/C. Novara/Getty Images.

Landscape Management

The Maya were successful in maintaining large populations in tropical, lowland environments with their relatively thin soils by using a mosaic of adaptations to microwatersheds and distinct local environments, which gave them flexibility and resilience to short-term climatic events. Archaeologists have learned a tremendous amount about ancient Maya landscapes from long-term surveys using traditional methods requiring archaeologists to drive, hike, or clamber their way around (Figure 16.5). Such work in the Maya Lowlands, though, has long proved a challenge because of the difficulties of traversing remote, heavily forested, often swampy, landscapes, and the inability of many remote sensing techniques including satellite imagery and aerial photography to see beneath forest canopy. However, the application of LIDAR (laser detection and ranging) technology over ever-wider swaths of the region has revolutionized research and demonstrated the scale of settlement and landscape modification undertaken by pre-Columbian peoples. LIDAR consists of an airborne sensor that emits many thousands of laser pulses each second, measuring the distance between the device and the surface from which the laser is reflected. In heavily forested areas most pulses will rebound from vegetation, but enough reach the Earth's surface that a point cloud of ground points can be generated. Investigators can use the point cloud to produce a high-resolution bare-earth Digital Terrain Model (DTM) that can reveal large and small anthropogenic features. Survey on the ground must still follow remote sensing surveys such as LIDAR, but can be focused on particular features identified in the digital imagery. With new and traditional archaeological methods, many scholars estimate that by A.D. 800, perhaps eight to ten million Maya lived in the lowlands (Figure 16.8).

FIGURE 16.8 LIDAR survey of central Tikal (left) reveals the scale of the ancient city's core, still largely hidden beneath dense tropical canopy (right). Both images represent exactly the same piece of the landscape. Left: Lidar image courtesy of PACUNAM and the MARI GISlab. Right: Google Earth Image copyright 2020 CNES/Airbus.



As populations rose, especially on the outskirts of cities, the Maya intensified their agriculture practices, moving beyond the slash-and-burn farming that had served settlers in the Preclassic period but had resulted in deforestation and erosion as populations boomed at El Mirador and other early cities. Clay had washed down hill slopes to fill in lakes, destroyed agricultural lands, and played a role in the fall of once thriving settlements at the end of the Preclassic. The residents of Tikal and other Classic-period centers developed more sustainable methods of supporting their large populations. Agricultural terraces slowed erosion, while raised and channeled fields were used to raise crops in some wetland environments. Pollen studies and other evidence suggest that forest coverage increased in some areas during the Classic period, quite possibly as people engaged in tree-planting efforts and used these critical resources more carefully. As early as the first century A.D., they began draining and canalizing swamps, turning hitherto unfarmable lands into grids of raised field systems elevated above low-lying, seasonally inundated land that bordered rivers.

There was also a need to ensure a steady and clean water supply for the city's people, for which Tikal's builders engineered complex systems of water collection and transfer. Dams, the largest measuring some 10 meters (33 feet) high and 80 meters (260 feet) long, were used to gather and release many millions of gallons of water in a complex system of reservoirs scattered

around the city. Water was collected from rainfall and runoff from paved surfaces, held in still ponds where impurities could settle, and was filtered through sand, all steps still used in modern water purification systems. Given the investment in water systems at Tikal and other centers, it is not surprising that Maya rulers in the Classic period were often depicted with the water lily, a flowering plant that grows in clean water. At Palenque, in an area that receives nearly 4,000 mm of rainfall per year, the concern was less with water storage and more with channeling water out of the site. Complex systems of channeled streams at Palenque may even have allowed for fountains in the city.

The Rise of Tikal (c. 200 B.C.–A.D. 900)

With this general scenario in mind, one can lay out the beginnings of a narrative of Maya political history from as early as the third century A.D., although the snapshots given here, based on individual site histories, are, necessarily, an incomplete picture. Tikal was among the greatest of the Classic period Maya cities, and texts on its monuments give us its ancient name: Yax Mutal. Following its abandonment at the end of the first millennium A.D. its ruins remained buried under thick rainforest until 1848. For more than a century, the only access was along narrow tracks, preventing any extended archaeological investigations. In 1951, the Guatemalan air force built a small airstrip close to the site, which enabled the University of Pennsylvania to begin a fifteen-year research project at Tikal, followed by a series of Guatemalan national projects first directed by Juan Pedro Laporte and Vilma Fialko, with investigations by international teams continuing to the present (Figure 16.9).

FIGURE 16.9 The pyramid known as Temple I, with the North Acropolis rising to the left, in the Great Plaza of Tikal. Daniel Loncarevic/Fotolia.

That abundance of archaeological data, combined with the decipherment of Maya writing since the 1960s, has demonstrated that Tikal emerged as a major political power at the beginning of the Classic period. It quickly became a pole around which much of the dynastic, economic, and military intrigue of the Maya Lowlands swirled. Tikal's pyramids peek above the jungle canopy, providing visitors with awe-inspiring vistas of the Petén forest and some sense of the power commanded by Maya lords. The city is centered on the Great Plaza, a quadrangle meant for public spectacles, lined with stelae and altars. It is bounded on the east and west by temple-pyramids, and to the north by the North Acropolis—an ancestral space filled with royal tombs and some of the earliest monumental architecture at the site. Pottery styles and radiocarbon dating show occupation as early as 800 B.C. To the south is the Central Acropolis, a complex of royal palaces. The Great Plaza is connected via a network of causeways to other monumental building complexes and elaborate residences that make up the site core. Among the site's many pyramids Temple IV, built around 750 A.D. and located to the west of the Great Plaza, stands out. At nearly 70 meters (230 feet), Temple IV is the

tallest building erected during the Classic period by the Maya and rivals the Pyramid of the Sun at Teotihuacan in height, if not mass.

Even in ruins these buildings are impressive, but the tumble-down gray stone buildings that we see today are a far cry from the riotous colors of a Maya city in its prime. The remains of paint on walls at Tikal, and well-preserved murals at other Maya centers, hint at the reds, blues, greens, and yellows that covered many buildings inside and out. Temples and palaces were also covered in stucco, often smoothed to a high polish and sometimes shaped into masks of supernatural beings or enormous images of ruler and deities. All of this was built without the benefit of pack animals, wheeled carts, or metal tools. Labor was carried out with tools of wood, stone, horn, and bone.

The work of the University of Pennsylvania Tikal project was innovative in many ways, not least because in addition to studies of royal pyramids and palaces researchers mapped and excavated the perishable houses of commoners. Such settlement research helped overturn the long-held belief that Maya sites were little more than empty ceremonial centers, filled with people only during intermittent ritual events. More than 16 square kilometers (6.2 square miles) of settlement has been thoroughly surveyed, while continuing investigations have intermittently expanded this map. An earthwork (consisting of a ditch and a raised berm of soil and rubble) partially encircles Tikal, delimiting a zone of 120 square kilometers (46 square miles). There is, however, no immediate drop-off in occupation beyond the earthworks, and so a total settlement area of 452 square kilometers (175 square miles) with a population between 50,000 and 100,000 during the Late Classic period (A.D. 600—900) seems probable. Rulers and members of the royal court lived in palatial homes with vaulted stone architecture, more commonly clustered near the heart of the city. Families of more modest means lived predominantly in pole-and-thatch structures. Multiple generations lived together in several small buildings clustered around a rectangular patio. Residents of these patio groups would have supported themselves with the maize, beans, squash, and other produce from house gardens and outlying fields.

The urban population was not self-sufficient, however, and markets brought vendors into the city with food and other goods. Excavators in the 1960s proposed the East Plaza, a quadrangle marked by long, open-plan buildings at the confluence of causeways, was the probable location of the

Tikal's main market, but there were certainly other markets elsewhere in the city. The discovery at Calakmul (Tikal's great political rival 100 kilometers/62 miles to the north) of spectacular murals depicting the exchange of pottery, salt, maize dough, maize grains, tobacco, and more provides vivid evidence that these royal capitals were economic hearts driving the circulation of wide-ranging trade networks. Located between river systems flowing east toward the Caribbean and west toward the Gulf of Mexico, Tikal was well positioned to take advantage of long-distance trade routes. Salt, dried fish, and shells flowed into Tikal from the coasts. Local cacao was supplemented by cacao grown in Belize and elsewhere. Jade arrived via trade routes extending south and east into the Motagua River valley, the only source of this precious stone in Mesoamerica. Local materials for building and stone tools like limestone and chert were complemented by obsidian and basalt from the volcanic highlands to the south and the Central Mexican highlands to the west. Because each obsidian source has a distinct chemical signature, it is even possible to identify the specific volcano from which the obsidian comes using techniques like X-Ray Fluorescence (XRF). We still know little about what products such lowland cities produced for long-distance trade. Perhaps finely made pottery was exported, or perhaps less durable woven goods and forest products such as vanilla and bird plumes that do not preserve well in the archaeological record.

Political History and Connection with Teotihuacan

Recent discoveries at sites such as El Mirador, San Bartolo, and more sites strongly suggest that there were Maya kings and queens in the Preclassic period. However, such royalty was not prominently represented in the art and architecture that remains until the Classic period. Thousands of Classic period images and decipherable texts survive on intricately worked objects of jade, on painted pottery, on carved stone monuments and formed in stucco on the sides of buildings and we can now reconstruct many of the life events of Maya kings, queens, and nobles.

On the death of a ruler, a son would typically inherit the throne. There were exceptions, though. Maya kings were polygamous and there was jockeying for power among eligible siblings and half-siblings. Texts tell us that brother sometimes succeeded brother and that not all sovereign rulers were men. Queens are also counted among the dynastic rulers at Tikal,

Palenque, and Naranjo among other centers. Even when royal women did not govern directly, their representation in inscriptions makes evident their power and influence in royal courts. These kings and queens were surrounded by priests, accountants, war captains, and other courtiers, who served as supporters but were also potential threats and competitors for the throne.

At Tikal, each of the Classic period rulers counted him- or herself a linear successor to the dynastic founder Yax Ehb Xook, who governed around A.D. 90. However, not everyone inherited the throne directly from the previous monarch. Indeed, the inscriptions hint that some rulers may have been foreigners. On 15 January A.D. 378, a nobleman named Sihyaj K'ahk', depicted in one instance as a warrior from the Central Mexican metropolis of Teotihuacan, arrived at Tikal. A new boy-king named Yax Nuun Ahiin was soon installed on the throne under the auspices of Sihyaj K'ahk'. Yax Nuun Ahiin's father was not the previous ruler of Tikal, but rather of a man called "Spearthrower Owl" who is given royal titles but was not a Maya king. Many scholars believe that Spearthrower Owl was instead the king of Teotihuacan where images of owls with spearthrowers are common (see Chapter 17). The arrival of Sihyaj K'ahk', his travels across the Maya area, and his role in the enthronement of kings are also recorded at other Maya capitals and clearly suggest that the Teotihuacano Sihyaj K'ahk' was literally a king-maker.

Did Teotihuacan's warriors led by Sihyaj K'ahk' actually invade Maya kingdoms like Tikal and install new rulers? While we do not yet know how or why a new king was put on the throne of Tikal, analyses of the chemical isotopes of human remains from royal tombs at Tikal tell an important part of this complicated story. The chemicals our bones and teeth absorb from food and water—particularly the differing isotopic ratios of oxygen and strontium—vary from region to region because of differences in the chemistry of the underlying bedrock, or the amount of rainfall and evaporation impacting the water imbibed. The isotopic signatures evident in the remains of Yax Nuun Ahiin, ostensibly the son of Spearthrower Owl, indicate that he was born and raised at Tikal and was not a recent arrival from Teotihuacan. Among the many skeletons from Tikal analyzed some 10–23 percent of individuals were immigrants, but from other parts of the Maya region and not from Central Mexico. These isotopic data thus provide no evidence in support of an invasion of Teotihuacanos, royal or otherwise, at Tikal. Rather than primarily by force, Teotihuacan may have dominated Tikal and other kingdoms through economic and political means. Green obsidian from sources

controlled by Teotihuacan and pottery from Teotihuacan are found in significant quantities at Tikal, though they are typically found in unusual contexts such as tombs or other ritual offerings. Perhaps Teotihuacan, the largest city in Mesoamerica, was simply the cultural center that the Maya looked for their examples of what it meant to be "royal," much as many kings and queens of Europe once sought to imitate the French monarchs and their court.

Political Rivalry and the Fall of Tikal

For all of their power and glory Tikal's rulers were not without rivals. Dozens of royal dynasties competed with one another for control of trade routes and resources, cementing alliances through marriage and gifts when possible, or war if necessary. Like the city-states of Classical Greece, each Maya capital administered a rural countryside that might extend out for tens of kilometers, though most Maya monarchs probably only exercised authority within a day's walk of their palace. One city might temporarily dominate a neighbor, but multiple kingdoms were not unified administratively and there was no "Mayan Empire." The rulers of the Kaanul dynasty governed first at Dzibanche in Quintana Roo, Mexico and then from the late seventh century A.D. at Calakmul, Campeche, 100 kilometers (62 miles) to the north of Tikal. These Kaanul rulers were long the chief nemeses of the lords of Tikal. War between these two great dynasties and their allies raged across the seventh century A.D., impacting virtually every corner of the Maya Lowlands in a struggle between superpowers, much as late twentieth-century history was marked by the Cold War engagements of the United States and the Soviet Union.

In A.D. 562 forces from Dzibanche, with the aid of Tikal's former allies at Caracol, finally claimed a grand victory. For a period of 130 years thereafter there are no known royal monuments from Tikal, although monarchs ruled and life in the city continued much as before. In A.D. 695, however, the forces of Tikal's king Jasaw Chan K'awiil I finally defeated Calakmul's king Yich'aak K'ak' on the battlefield. Although Calakmul's political power was not immediately shattered, it never recovered its former dominance.

Ultimately even mighty Tikal succumbed to the crumbling of the Classic-period political system and depopulation during the so-called "Collapse." By the beginning of the ninth century A.D. the royal power of Tikal's dynasty was

in decline and for much of that century our only glimpse of Tikal's kings comes from brief mentions on the monuments of other sites. Petty lords at much smaller settlements scattered around the edges of Tikal's once mighty domain began to claim the royal titles of the decaying kingdom as dynastic power splintered. A final monument was dedicated by a king at Tikal in A.D. 869, and then its royal history fell silent. Excavations reveal little in the way of household refuse or construction efforts in the city center or outlying settlement in the century following political collapse, as the city's population dwindled away. Even as the great cities of the southern Maya Lowlands fell into decay, though, new power centers would emerge in the Northern Lowlands of the Yucatan peninsula at sites like Chichen Itza.

Palenque (A.D. 431–799)

The city of Palenque, a powerful capital of the western lowlands of Chiapas, Mexico, is remarkable not only for its fine buildings but also for its rulers' obsession with their ancestry (Figure 16.9). Although Palenque's dynasty had been founded centuries earlier, the kingdom entered its greatest period of growth and power during the reigns of K'inich Janaab Pakal I (often called simply Pakal or Pakal the Great) and his sons, who ruled in the seventh century A.D. (see Box 16.3). Palenque's dynastic history began on March 11, A.D. 431, when K'uk' Bahlam I became ruler, although inscriptions push the ruling lineage deep into mythical time many thousands of years before the present. The last king held power until sometime shortly after A.D. 799, by which time at least 17 rulers had acceded to Palenque's throne. There were hiccups in succession along the way. Although rule was most often handed from father to son, Palenque saw the accession of ruling queens, powerful non-ruling nobles, and the passing of rulership between brothers. These complications may account for the proliferation of inscriptions at Palenque that are concerned with establishing the genealogical bona fides of Pakal and his sons as they governed the kingdom.

FIGURE 16.10 Central precincts of Palenque, with the Temple of the Inscriptions at left and the royal palace at right. Fotolia.

Pakal rose to the throne following the reign of a king named Muwaan Mat who remains something of a cipher. Pakal claimed descent not from that mysterious king, but from his mother, Lady Sak K'uk', who served for a time as regent and who must have been a member of the royal lineage. A queen, Ix Yohl Ik'nal, had previously ruled Palenque but is not included among the count of dynastic rulers, hinting at the challenges for female lines inheriting the throne. Pakal was further challenged because he inherited a kingdom that had suffered a series of staggering defeats at the hands of the same Kanuul dynasty that presented such a threat to the rulers of Tikal. To establish their authority, Pakal and his sons turned to calendrical inscriptions that tied their lineage into the mythical times when Palenque's patron deities walked the world. It may have helped that Pakal ascended to the throne at the age of twelve, while his mother was still alive. She lived for another twenty-five years, and it was only after her death in A.D. 640 that Pakal commissioned major inscriptions that justified his own rule.

Toward the end of his long reign of sixty-seven years, Pakal built the Temple of the Inscriptions, a masterpiece of Maya architecture beneath which lies his tomb. Artists carved the images of his ancestors around his sarcophagus deep under the temple, each emerging from a young plant, alive once again. Topping the sarcophagus, the great stone lid shows Pakal himself, emerging from the boney jaws of the underworld, reborn as the young maize god (see Figure 16.11, Box 16.3).

FIGURE 16.11 Built into the base of the Temple of the Inscriptions was the tomb of K'inich Hanaab Pakal, powerful ruler of Palenque, where he was buried in a finely wrought sarcophagus. On the lid the deceased ruler is shown rising

reborn from the bony jaws of the underworld. Album/Alamy Stock Photo.

Box 16.3 Discoveries *The tomb of K'inich Janaab Pakal I*

Under the leadership of K'inich Janaab Pakal and his sons, Palenque's royal precincts became a complex masterpiece of Maya art and architecture. The city's artists rendered texts on stone in calligraphy, as if they had been painted, mastered fluid human forms, and transformed stucco into lifelike representations of rulers and deities. Lying in the foothills of where the highlands of Chiapas give way to the sweltering lowlands of Tabasco, Palenque is a compact center by Maya standards.

At the heart of its great plaza stands the Palace, with its pagoda-like tower, dominated by the Temple of the Inscriptions built, according to the texts on its carved panels, in A.D. 692. The temple rests on a stepped pyramid rising 23 meters (75 feet) above the plaza, and backs onto a hill that is today covered in forest.

In 1949, Mexican archaeologist Alberto Ruz Lhuillier noticed some holes in a large slab that formed part of the temple floor. He lifted the slab and uncovered a rubble-filled stairway leading to the heart of the pyramid. After four field seasons of arduous work, excavators completed the clearing of a set of 71 steep stairs, which made a U-turn in the middle. At the bottom of the stairs was a sealed doorway, and behind this an offering of jade and shell objects. Yet another stone door had to be cleared, revealing the skeletons of six young male sacrificial victims lay at the foot by a triangular slab that sealed a vaulted doorway. Behind that final doorway lay a burial chamber measuring 9 × 4 meters (30 × 13 feet). A vaulted ceiling soared 64 meters (21 feet) overhead. The sepulcher lay 23.4 meters (80 feet) below the floor of the temple and 1.5 meters (5 feet) below the plaza ground surface. Otherworld figures adorned the chamber walls. Most of the floor was taken up by a massive, carved stone slab, 25 centimeters (10 inches) thick, weighing about 5 tons. Ruz's team lifted the sarcophagus lid with great difficulty and gazed on the skeleton of a tall man covered with jade ornaments, including a mosaic mask that covered the ruler's head.

When Ruz originally uncovered the tomb, he had no way to identify its occupant. But the decipherment of Maya script has enabled epigraphers to identify the owner as K'inich Janaab Pakal himself, named in the inscriptions of the temple above, who was born in 603, ascended to the throne in 615, and died in 683 at the age of eighty (Figure 15.10). The sarcophagus is a remarkable commentary on Maya kingship. His genealogy appears in the metaphor of an orchard of fruit trees, that is, an orchard of the ancestral dead. Each ancestor rises with a fruit tree, the earliest in the southeast corner; Pakal's mother and father are in the north and south sides. On the lid, the king's artists depicted the Pakal emerging from the boney jaws of the underworld. Like the new corn, Pakal would rise again. The discovery also proved to be something of a test of the veracity of the inscriptions.

Early analyses of the skeletal remains suggested that the individual was a male who had died in his forties. When, in the 1970s, decipherment of the inscriptions associated with the temple and tomb allowed scholars to identify the individual in the sarcophagus as Pakal, who texts tell us died at the ripe old age of eighty, this ignited a controversy. Perhaps the texts were exaggerating the vitality of the glorious king, who had died in early middle age. Recent advances in osteological analyses, however, served to bring materials and texts in line with one another. Research led by bioanthropologists Vera Tiesler and Andrea Cucina confirmed that the skeletal remains were indeed consistent with an individual who died at eighty. However, many images of Pakal are believed to represent him with extra digits or a club foot, yet no such features can be identified in the skeleton, so some mysteries surrounding the representation of Pakal remain.

Pakal's sons, beginning with Kan Bahlam II who acceded in A.D. 683, built additional temples at Palenque, most famously those of the Cross Group—a complex of three temple-pyramids adorned with long texts and imagery linking rulership to Pakal. Pakal's grandsons continued this tradition, tying their authority to that singular figure, and maintained Palenque as a major power for about a century after the great ruler's death through conflicts with neighboring Tonina and Piedras Negras, and smaller regional powers.

Though Palenque variably bested its neighbors and suffered striking defeats, Maya statecraft did not allow for the organization and military logistics to control wide areas directly. Instead, rulers increasingly relied on courtiers, war captains, border lords, and petty kings to maintain authority in cities and the hinterlands. In the western Maya region where Palenque is located, we know of a whole suite of courtiers bearing titles such as *sajal* or *aj k'uhuun*, who were of such importance that they are named and depicted alongside rulers on stone monuments from many cities. Many dozens of such figures are named, and the rise in their prominence must have served the needs of rulers, but must also have weakened the authority of dynastic kings and queens. Minor nobles and others took advantage of these dynamics to carve out their own independent domains on the periphery of large states. Such processes are also well documented across the Maya Lowlands, at Copán, Honduras.

Copán (A.D. 426–810)

Copán is adorned with pyramids and plazas covering 12 hectares (30 acres). At the southern end of its Great Plaza, which encloses a wide quadrangle filled with elaborate stelae, altars, and a ballcourt, rises the Acropolis. This is an elaborate complex of raised enclosed courtyards, pyramids, and temples (Figure 16.11). Here successive rulers built their architectural statements one atop the other, linking their moments of rulership to those of their predecessors with stone and stucco in an archaeological jigsaw puzzle of the first magnitude.

Among its many buildings, Copán features a ball court, two parallel platforms with sloping sides on either side of a narrow playing alley (Figure 16.7). The ballgame was both sport and ritual. The court was a symbolic opening to the underworld, providing access to otherworldly powers in a place where sacrifices, ritual combat, and the ballgame were all carried out. In the sixteenth century among the K'iche Maya of the Guatemalan highlands, the story of Popul Vuh records hero twins battling the Lords of the Underworld in an epic ball game to rescue their father. Thus, a ruler who sponsored or took part in a game was almost certainly performing an important ritual act that reenacted such mytho-religious moments and helped ensure the continuity of the universe. In the ballgame, players (including rulers) wore protective padding needed to protect them from heavy, solid rubber balls that could easily break ribs. The ball was kept moving by bouncing it from the hips and shoulders of athletes, who sought to send it to an end zone. Sometimes rings, or in the case of Copan stone macaw heads, were set in the side of the playing alley. When Spaniards saw the game played in the Yucatán in the sixteenth century A.D., the rules of play were more than 2,000 years old and varied regionally. Spanish accounts, though, speak of fevered excitement and gambling that accompanied play, a fervent sports culture that might be familiar in stadiums even today.

Fragmentary monuments hint at earlier rulers, but Copan's Classic period dynasty traced its ancestry K'inich Yax K'uk' Mo', who acceded to kingship in A.D. 426. Yax K'uk' Mo' is typically depicted wearing the goggle eyes of the Central Mexican rain god, suggesting a connection with Teotihuacan (see Chapter 17). Inscriptions tell us that he was a foreigner who arrived at Copan from elsewhere, perhaps Caracol in Belize, an origin that would accord with the isotopic signatures of his bones. For four centuries, Yax K'uk' Mo's

successors held power at Copán and became the most influential kingdom in the southeastern Maya world. The rulers of Copan may have exercised control over significant trade routes along the Motagua River, the singular source of jade in Mesoamerica, and their influence extended into Central America and Belize.

Among the smaller kingdoms that paid allegiance to the rulers of Copán was Quirigua, located in modern Guatemala and perched on the banks of the Motagua. Copan's dynasty reigned supreme in the region until the reign of the thirteenth ruler, Waxaklajuun Ubaah K'awiil (often called 18 Rabbit in the archaeological literature, due to a misapprehension of his name glyphs). On May 3, 738, the ruler of Quirigua named K'ahk' Tiliw Chan Yopaat turned on his sovereign, captured Waxaklajuun Ubaah K'awiil, and sacrificed him. Such a defeat surely realigned the political realities of the southeastern Maya world, but Copán seems to have maintained its independence, and its dynasty survived and thrived for a time. In 749, a new ruler, K'ahk' Joplaj Chan K'awiil, ascended to the throne of the once great city and embarked on an ambitious campaign of rehabilitation, even marrying a princess from distant Palenque. He also embarked on a building frenzy the most imposing result of which is the Hieroglyphic Stairway, begun around A.D. 710 in the reign of his predecessor and completed around A.D. 755 (Box 16.4). The longest inscribed text in the Maya world, the Hieroglyphic Stairway details much of the history of Copan's dynasty for good and ill, recounting even the loss of Waxaklajuun Ubaah K'awiil. Atop the staircase stood a temple inscribed with a dual text in Maya script and a Teotihuacan "font," connecting Copan to that distant (and long gone) Central Mexican capital, emphasizing the same foreign connections that had empowered Yax K'uk' Mo'. Although the Copan kingdom and dynasty seemed to thrive, there were clearly problems emerging, perhaps from factionalism, climate change, or some combination thereof. Yax Pasaj Chan Yopaat acceded as the sixteenth dynastic ruler in A.D. 763, and held the throne until A.D. 810. His buildings and monuments, including the fabulous Altar Q, which recounts the arrival of Yax K'uk' Mo' at Copan, depicting all sixteen rulers around its sides, give no indication of any decline. Yet Yax Pasaj Chan Yopaat was the last effective ruler at Copan. There may have been a seventeenth king, but the city's artists literally abandoned their work and left sculptures unfinished. This was the end of the dynasty.

16.4 Sites Architecture as a Political Statement: The Hieroglyphic Stairway at Copán, Honduras

Maya archaeologist works closely with epigraphers, using archaeological materials and inscriptions in a conjunctive approach to reconstruct complex architectural events, as well as the ritual or political motives behind them. William and Barbara Fash have worked closely with epigraphers including David Stuart, Stephen Houston, Simon Martin, and Alexander Tokovinine to combine both lines of evidence in efforts to reconstruct the Hieroglyphic Stairway at Copán.

In the 1930s, archaeologists from the Carnegie Institution attempted to restore much of the ruined stairway, replacing the glyph blocks as best they could without the capacity to decipher them. The result is a staircase that looks complete, but which modern scholarship has revealed to be a text out of order (Figure 16.12). In 1986, the team led by the Fashes set out to restore and conserve the building, while establishing the true meaning of the stairway. Using meticulous excavation, the archaeologists recovered thousands of tenoned mosaic fragments from the structure, which were drawn and photographed. More recently, 3D scanning and modeling of the staircase blocks has allowed scholars to print out miniature versions of the text and work to piece together a precise reconstruction of the building.

FIGURE 16.12 Tatiana Proskouriakoff's reconstruction of the central area of Copán. Courtesy Peabody Museum of Archaeology and Ethnology, Harvard University.

We can never recover all the information lost to collapse and erosion, but more than 2,200 glyphs ascending the sides of the stairway provide an elegant statement of the Maya kings' history and claims to authority begun by Waxaklajuun Ubaah K'awiil and completed in the aftermath of that ruler's defeat by his successor K'ahk' Joplaj Chan K'awiil. Portraits on the stairs depict Copán's lords as warriors carrying shields, with inscriptions recounting their deeds. A figure, perhaps K'ahk' Joplaj Chan K'awiil, stands where an altar forms the base of the stairway, in the form of an inverted head of the Central Mexican rain god called Tlaloc by the Aztecs. Tlaloc seems to be belching forth the inscriptions, his lower jaw forming the top of the stairs. Inside his head lay an offering of decorated flints in the form of portraits and artifacts for sacrificial and bloodletting ceremonies that dedicated the stairway. Unfortunately, the stairway was shoddily built. It soon collapsed, at a time when Copán was rapidly losing its political authority.

Elite Overreach

The lowlands were never unified politically during the Classic period. What the Maya elite did share was a set of highly complex traditions and a network of contacts between rulers that transcended the local interests of individual kingdoms and considerable local diversity. Only when a few aggressive and exceptionally talented leaders appeared did several centers coalesce into more expansive states, such as those of the archrival Mutal (Tikal) and the Kanuul (Dzibanche and Calakmul) dynasties. For most city-states the diplomatic and military landscape changed constantly throughout the Classic period. Dependent as they were upon personal relationships between rulers and nobles, alliances were quickly formed and rapidly spun apart. In earlier periods only the most exalted individuals—rulers, some members of their immediate families, and important war captives—were memorialized on the stone stelae, lintels, and other monuments that adorned the public and private spaces of Maya cities. By the eighth and early ninth centuries A.D., though, rulers permitted—or were no longer able to prevent—the dedication of monuments glorifying a much broader range of political elites. Carved inscriptions began to adorn the houses of local nobles in the kingdoms of Palenque, Copán, and their neighbors. This proliferation of inscriptions may have been a power-sharing strategy of rulers intended to maintain their grip on power, or may reflect nobles taking advantage of confused times and a disintegrating political authority to claim their own brief independence. Whatever the case, these already fractious city-states saw expanding economic and political fissures. By A.D. 800, populations in the Maya cities of the Petén had begun a precipitous decline. Before that century was out, the carving of monuments and raising of palaces dedicated to holy kings and queens had come to an end.

There are intriguing parallels between Classic Maya and early Mesopotamian civilizations. The Sumerians were governed by independent rulers with strong ritual powers, presiding over independent city-states that were in a constant state of change and interaction. The city-state remained the practical political unit long after Sargon created a theoretically unified Mesopotamia around 2350 B.C. (see Chapter 3). Just as in the Maya lowlands, larger political units forged by leaders of exceptional ability were tied together through common religious beliefs, alliances, and marriage ties. With a transition in rulership these often quickly fragmented back into their city-

state parts. The central institution of Classic period Maya civilization was kingship, for it was the concept that unified society as a whole politically, centered the cities that provided markets and economic life, and provided a pivot for religious life with holy lords serving as intermediaries with the divine. When the credibility and ability of kings and queens to command the loyalty, and labor, of their people diminished, their authority evaporated rapidly.

And what did the great mass of the populous make of all of these political changes and the intrigues of royal courts? The houses of commoners do not provide us with the spectacular pyramids, palaces, and histories of the royal court, but they offer insights into the broader scope of society. Though archaeology tells us a great deal concerning the daily lives of people living in humble abodes of the city and surrounding hinterlands, it can be challenging to piece together the evidence to reconstruct day-to-day activities. At the small village of Cerén in San Salvador, however, we have a Pompeii-like glimpse of a moment in the life of a community. Cerén was buried under many meters of volcanic ash by an unexpected eruption in sixth century A.D. The people fled for their lives, leaving their possessions behind them. Payson Sheets and a team of Salvadoran archaeologists have located several houses using ground-penetrating radar, which they have been able to follow up with excavations. Each Cerén household had a thatched dwelling for eating, sleeping, and other activities, as well as a storehouse, kitchen, and sometimes other structures. The villagers stored grain in clay vessels with tight lids, suspending corncobs and chilies from the roof. They kept many implements, including sharp-bladed stone knives, in the rafters, out of the way of children. The excavations have revealed three public buildings, the remains of manioc plants and maize in the nearby fields. The maize was discovered with its stalks doubled over, and the ears still attached—a “storage” technique still used in parts of Central America today. Judging from the mature maize, the eruption came at the end of the growing season, in August.

THE NINTH-CENTURY COLLAPSE

For most of the first millennium A.D. scribes from southeastern Mexico to Honduras had recorded the life histories of kings, queens, and nobles in thriving towns and cities. The power of dynastic kingdoms rose and fell depending on the economic and military fortunes of rulers and their nobles.

Neither defeat on the battlefield, nor even the execution of a ruler, necessarily meant the end of the kingdom, though it sometimes took decades for a given dynasty to emerge from the dust and ash to regain its authority. But by the end of the eighth century A.D., more and more kingdoms simply ceased to be, and dynastic court after dynastic court seemed to wink out. Scribes stopped recording histories on public monuments, and builders abandoned the construction and maintenance of the tremendous pyramids and palaces that still inspire millions of tourists each year to visit sites like Palenque and Tikal. Half-finished royal monuments were sometimes abandoned by their carvers leaving blanks for glyphic texts never completed, as though artists simply dropped their tools and walked away. By the beginning of the tenth century A.D., most of the once thriving royal cities and the surrounding towns of the central Maya area were essentially abandoned.

Scholars have struggled to understand the processes and fundamental causes of what is popularly called the Classic period "Collapse." From a historical perspective all civilizations end, of course. In some cases cities are abandoned, populations plummet, and the political organization disintegrates. In others, civilizations simply go through political or economic transformations that require new names and definitions. Yet, somehow, the "Maya Collapse" has come to occupy a special place in popular literature and news media. Frenetic internet postings, not to mention action-packed Hollywood movies, inundate us with supposed predictions of the end of the world left behind by these mysteriously vanished people. How to envision a situation in which apparently thriving kingdoms across southern Mexico and northern Central America cease during what (to archaeologists at least) seemed a flash of time.

Warfare may have played a role in stressing political systems. At Dos Pilas in northern Guatemala, 105 kilometers (65 miles) from Tikal and founded by the brother of Tikal's king in A.D. 645, Stephen Houston and Arthur Demarest uncovered evidence of civil war and prolonged conflict. Dos Pilas's later rulers embarked on campaigns of expansion, which had enlarged their territory to more than 3,884 square kilometers (1,500 square miles) by the mid-eighth century. Straddling river and overland routes to the highlands, Dos Pilas controlled major jade and obsidian exchange systems. Its lords lavished wealth on ornate palaces and a pyramid topped by three temples. Demarest and Juan Antonio Valdés dug deep under a small temple behind a stela that commemorated Itzamnaaj K'awiil, who reigned between

A.D. 698 and 726, and uncovered the ruler's burial chamber. He wore a shell mosaic headdress adorned with monster faces, a heavy jade necklace, and jade bracelets. At his waist hung a stingray spine, once used for genital bloodletting. Hieroglyphs associated with the grave tell of the lord's carefully contrived diplomatic marriages with neighbors and of his delicate political alliances and his military campaigns.

Dos Pilas flourished until A.D. 761, but its rulers had overextended themselves, despite frantic efforts to maintain their domains. In that year, nearby Tamrindo attacked its former sovereign, capturing and killing the king K'awiil Chan K'inich. Resistance by the Dos Pilas inhabitants was fierce, and they tore down the royal palace and robbed temple facades to build rough defensive walls with wooden palisades to surround the city's central precinct. What remained of the royal court fled to the smaller center of Aguateca, perched atop a steep cliff above a deep chasm it was protected on three sides by natural features bolstered by massive defense walls. Aguateca held out for another half century, despite repeated attacks, with fortified villages scattered around the countryside. Local conditions may have become so insecure that farmers were limited to defended acreage, so that crop yields may have been affected dramatically. Aguateca finally gave way to the onslaught, and it was sacked and abandoned. Yet warfare alone cannot account for the Collapse elsewhere, and war among Maya city-states had occurred for centuries without such finality.

Seeking other explanations, Patrick Culbert examined population densities and the potential for agricultural production in the Southern Lowlands. He suggested that population densities rose to as many as 200 persons per square kilometer (518 per square mile) during the Late Classic over an area so large that it was impossible for people to adapt to bad times by moving to new land or emigrating. He believed that the magnitude of the population loss during the two centuries after A.D. 800 was such that social malfunction alone cannot account for it. Failure of the agricultural base must have been an important component in the collapse equation at the local level.

Maya agriculture became increasingly intense as populations rose, and both terraced and channeled-field systems covered large areas in many parts of the lowlands. At some of the larger sites like Tikal, the people may have been transporting great quantities of foodstuffs from distances of between 50 and 100 kilometers (31 and 62 miles) away. In the short term, the intensification strategies worked, but they carried the potential for collapse.

The risks of climatic change, plant disease, erosion, and long-term declines in soil fertility are always present in such enterprises. To continue functioning efficiently, the newly intensified systems would have had to have been managed constantly. The maintenance of field systems after floods and rains would have required watchful effort on a large scale. Culbert believed that long-term environmental degradation was an important element in the scenario, where short-term gains in productivity were followed by catastrophic declines. For example, as populations rose, fallow cycles may have been shortened, so that there was increased competition between crop plants and weeds; this is a problem that can be solved only by constant weeding, a very labor-intensive activity. Shortened fallow cycles also lead to lower levels of plant nutrients and declining crop yields, and we do not know whether the Maya tried to counteract these trends by systematic mulching or by planting soil restoring crops.

Challenges to maintaining large populations may have been exacerbated by drought. The sediments of Lake Chichancanab in the Yucatán show a recurring pattern of drought, occurring about every 208 years. These cycles coincide with the documented 206-year record in records of cosmogenic nuclide production (carbon-14 and beryllium-10) that are thought to reflect variations in solar activity. The period between 750 and 1000 was the driest of the middle to late Holocene, with two arid peaks, the first coinciding with the Classic Maya collapse. Such serious droughts were devastating to large-scale agricultural societies depending on surface water and dry agriculture. Oxygen analysis of stalagmites from the Yucatán documents eight severe droughts that lasted between eight and eighteen years, during which rainfall declined by 36–52 percent below long-term averages. The number and intensity of summer tropical storms declined significantly. Although land use and population densities varied across space and time, the Maya landscape was under severe stress by the Late Classic, with extensive deforestation caused not only by agriculture but by growing needs for firewood, for, among other things, burning lime for plaster. At the same time, populations of larger mammals such as white-tailed deer declined across the lowlands.

Long-term field surveys of Copán and its hinterland have documented dramatic population changes during the collapse period. Between A.D. 550 and 700 the Copán city-state expanded rapidly, with most of the population concentrated in the core and the immediate periphery. There was only a small, scattered rural population. Between 700 and 850, the Copán Valley

reached its greatest sociopolitical complexity, with a rapid population increase to between 18,000 and 20,000 people. These figures, calculated from site size, suggest that the local population was doubling every eighty to one hundred years, with about 80 percent of the people living within the core and the immediate periphery. Rural settlement expanded outward along the valley floor, but it was still relatively scattered. But now people were farming foothill areas, as the population density of the urban core reached over 8,000 people per kilometer (0.3 square mile) and the periphery housing about 500 people per square kilometer (0.3 square mile). In total 82 percent of the population lived in relatively humble dwellings, an indication of the extreme stratification of Copán society.

Copán's ruling dynasty ended in A.D. 810, just as serious urban depopulation began. The urban core and the periphery zones lost about half their population after A.D. 850, while the rural population increased by almost 20 percent. Small regional settlements replaced the scattered villages of earlier times, in response to cumulative deforestation, the overexploitation of even marginal agricultural soils, and uncontrolled soil erosion near the capital. By A.D. 1150, the Copán Valley population had fallen to between 5,000 and 8,000 people.

Culbert draws an interesting parallel with Mesopotamia, where at Ur an abundance of water from an expanded canal system led to overirrigation, shortened fallow cycles, and high levels of salt in the soil. There, long-term agricultural decline was in some ways a direct consequence of its earlier apparent success. The expanding Maya population was dependent on an agricultural system that made no allowance for long-term problems. Eventually, the system could produce no further riches, could not expand, and could only decline—with catastrophic results. But it would be a mistake to think of the Maya "Collapse" as a universal phenomenon. Rather, the collapse of the ninth century was a marked episode in a long series of periodic flowerings and failures characteristic of Maya civilization—indeed, of Mesoamerican civilization generally. What is striking, however, is that the forest in the abandoned areas recovered, but the Maya never recolonized them or founded new cities there. This may have been because of the shift in trade from inland to the coast that undercut the ancient economy of the older cities. The Maya collapse may have been triggered in part by environmental and climatic changes. But, ultimately, the catastrophic changes were as much social and political as environmental. At issue here was the legitimacy of

rulers who claimed divine connections, which could easily be eroded by food and water shortages, or, as was also the case, by a shift in trading patterns from the interior to the coast.

POSTCLASSIC LOWLAND MAYA CIVILIZATION (A.D. 900–1517): CHICHEN ITZÁ AND MAYAPAN

Maya civilization did not fade away following the political failure and demographic decline of the Southern Maya Lowlands in the ninth century A.D. Some kingdoms in the Northern Maya Lowlands of the Yucatan peninsula survived the collapse and thrived, and powerful states would later emerge in the highlands of Guatemala. Among the most significant cities in the north was Chichen Itza, which emerged as a regional power in the ninth century A.D. Its rulers and merchants participated in trade routes and cultural connections that extended beyond Mesoamerica. Deciphered inscriptions on stone monuments at Chichen Itza are limited to the beginning of its heyday in the ninth century A.D., but later accounts of Spanish colonial authorities and indigenous Yucatec Maya language texts recall the founding of the city, the names of rulers, and the conflicts that brought about its downfall.

Though not as big as Tikal, the size of Chichen Itza's architectural core (about 5 square kilometers, or 1.9 square miles), with a population as high as 30,000, rivals some of the Classic period cities. The expanse of the main plaza in the northern half of the site is dominated by an impressive pyramid today called "El Castillo" (The Castle), or the Pyramid of Kukulkan. Kukulkan is the feathered serpent deity that had been worshipped since Olmec times, and which was known in Central Mexico as Quetzalcoatl (Figure 16.13; see also Chapter 17). With staircases on all four sides, the balustrades of the northeastern staircase have carved limestone serpent heads at their bases. During the equinoxes the sun's movement creates undulating shadows along the balustrades, seeming to bring the serpents to life. The view from the top of the Castillo, 30 meters (98 feet) above the plaza floor, offers a sweeping view of the city and across the flat surrounding landscape. Just to the northwest of the Castillo is the Great Ballcourt, the largest complex of its kind in the Americas, with a playing alley 150 meters (488 feet) long. Close by stands a building covered in carved skulls, which once held a rack to display the actual skulls of war captives and sacrificial victims. Colonnaded halls, evocative of contemporary sites elsewhere in

Mesoamerica, particularly Tula in Hidalgo, Mexico, are concentrated east of the Castillo around the Temple of the Warriors. The architecture of southern Chichen Itza is significantly different. In an area called Chichen Viejo ("Old Chichen"), buildings exhibit "Puuc style" architecture, with stone mosaic friezes more generally associated with Maya sites to the west such as Uxmal, where the style reached its apogee. Also in southern Chichen Itza is a circular celestial observatory ("El Caracol," The Snail), unique among the rectilinear buildings of the city.

FIGURE 16.13 Reconstruction of the Hieroglyphic Stairway at Copán by Tatiana Proskouriakoff. Courtesy Peabody Museum of Archaeology and Ethnology, Harvard University.

Unlike the lush Southern Lowlands, the Northern Maya Lowlands suffer from limited rainfall and surface water. The porous limestone of the Yucatan peninsula drains water away from the surface into great underground aquifers. The subterranean water dissolves so much of the bedrock that the ground surface occasionally collapses, forming sinkholes called “cenotes.” Cenotes serve as natural wells, providing the only year-round access to fresh water in many parts of Yucatan. In fact, the name Chichen Itza means “At the mouth of the well of the Itza.” A cenote in the southern portion of the city provided drinking water, and a second so-called Sacred Cenote was linked to

the northern end of the site by a 300-meter (980-foot) long causeway. The Spanish reported that the Sacred Cenote was a site of worship into which objects of great value, as well as human sacrifices, were given over to the gods. Such accounts are substantiated by the hundreds of fine objects and human remains recovered from the cenote by dredges and divers.

Archaeological evidence for warfare with neighboring Yaxuna, which was sacked, and hieroglyphic data from Uxmal suggest that militarism played a significant role in the rise of Chichen Itza. Martial imagery is a major theme of art at the site. Murals from the Upper Temple of the Jaguar, atop the Great Ballcourt, depict a battle in full swing as warriors march along the door jams. Such themes are most obvious to the modern visitor in the Temple of the Warriors, where the columns are carved in low relief with figures of men arrayed in their battle finery.

Precisely how power and authority were exercised at Chichen Itza remains a key point of debate. Inscriptions name several individuals, but also suggest that someone called K'ak'upakal was the paramount king during the ninth century. Rule by an elite council, known in Yucatec as *multepal*, is sometimes proposed based upon historical accounts, but there is little archaeological or epigraphic evidence for this. Nonetheless, Chichen Itza's monuments do not exhibit an explicit focus on the personal authority of monarchs, nor have archaeologists uncovered any demonstrably royal tombs.

Chichen Itza was abandoned by A.D. 1050 or 1100, making room for the growth of Mayapan, which had been a local political or religious center 100 kilometers (62 miles) to the west initially settled in the eighth century A.D. By the thirteenth century, Mayapan's rulers were able to fill the political void left by Chichen Itza and the city's rulers—perhaps members of a ruling council called *multepal* in Yucatec Maya—had become paramount in central Yucatan. The architecture at Mayapan is far smaller than that of Chichen Itza, yet the sheer density of construction gives a more urban feel to this city. Some 4,000 buildings and several cenotes are packed into courtyards and encircled by a defensive wall forming a 4-square kilometers (1.5-square miles) central zone that had a population of 17,000. Many of the buildings are the houses of commoner families, but the city's center was built in obvious emulation of Chichen Itza, with a smaller version of the earlier capital's El Castillo pyramid (only 15 meters/49 feet tall at Mayapan), its colonnaded halls, and its observatory. Mayapan, too, though fell and was abandoned by A.D. 1440. Its violent downfall was recalled in indigenous accounts as the

result of immoral rulership and long-simmering conflict between ruling lineages. But violence predated collapse, as attested by the city's encircling walls, burned buildings, and mass graves, which radiocarbon dating shows preceded abandonment by decades. The ruling families of Mayapan remained powerful political dynasties in the peninsula for the next century, well into Yucatan's Colonial period.

In historical accounts the Itza rulers of Chichen Itza are identified as foreigners from the "west." Scholars long understood such references to suggest the intrusion of Toltecs from Tula in Central Mexico, an interpretation that seemed to fit well with Aztec stories in which the Toltec ruler Ce Acatl Topiltzin Quetzalcoatl had gone into exile in the "east" (see Chapter 17). The abundant depictions at Chichen Itza of feathered serpents (avatars of the deity Kukulkan/Quetzalcoatl), martial imagery, friezes with marching animals, and so-called "chacmool altars" (sculpted reclining male figures with offering receptacles placed on their chests) all recalled the artistry of Tula and were seen as imported Toltec traits. Finally, the near identical form, arrangement, and style of buildings like the Temple of the Warriors at Chichen Itza and Pyramid B at Tula seemed to substantiate these claims.

Recent revisions of ceramic chronologies for Chichen Itza and Tula, however, combined with radiocarbon dates from both sites, demonstrate that supposedly Toltec traits appeared first at Chichen Itza, or at least have a longer history of development there. Moreover, so-called Toltec features are not unique to Tula and Chichen Itza but are more widely shared with cities from northern Mexico to Central America. The rulers of Mayapan, too, were sometimes accused by later Maya scribes of being foreigners and late arrivals to Yucatan. Sculpted stucco and stone figures at Mayapan that depict deities in a Central Mexican style seem at first glance to support such connections. So, too, murals at the site are in the so-called "Mixteca-Puebla" style, known from books, murals, and pottery produced across Mesoamerica.

FIGURE 16.14 (a) The Castillo at Chichen Itzá. lunamarina/Adobe Stock. (b) The Temple of the Warriors at Chichen Itza, a stepped pyramid fronted and flanked by carved columns depicting warriors. World Pictures/Alamy.

(a)

(b)

Rather than derivative of any other culture, though, Mayapan and Chichen Itza should be thought of as cosmopolitan cities. Control over the most important salt-producing region in Mesoamerica along the Yucatan coast provided tremendous wealth to both cities. Their markets drove exchange around the Yucatan peninsula linking Central America with northern Mexico. Objects found in the Sacred Cenote at Chichen Itza include gold pendants and bells imported from Panama or Colombia, turquoise mosaics from northwestern Mexico, and inscribed jades from the southern Maya area.

The fall of Chichen Itza and Mayapan was hardly the end of the Maya. Spanish conquistadors of the sixteenth century encountered thriving towns across the Yucatán and in the highlands of Guatemala and Chiapas. Indeed, deep in Guatemala's Petén, the Itza kingdom of Tayasal resisted colonial expansion for nearly two centuries before it was finally occupied in 1697. Maya civilization thrives to this day in Mexico, Belize, Guatemala, and Honduras where some 8 million people speak one of about thirty Mayan languages.

Summary

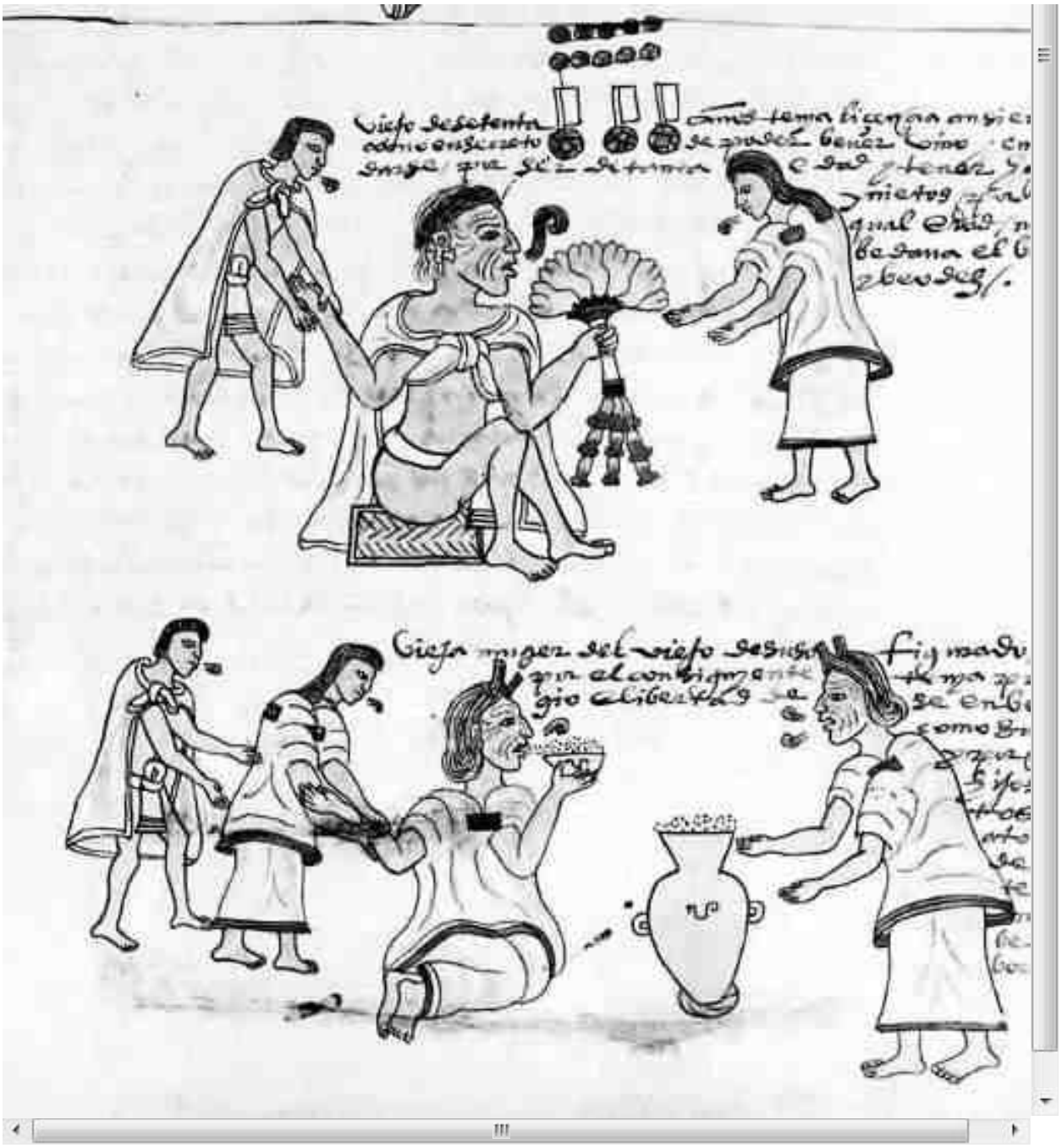
Mesoamerica, the area of Central America where indigenous states developed, is marked by great environmental diversity between highlands and lowlands and within each of these zones. Village farming took hold throughout Mesoamerica in the third millennium B.C., with maize and bean agriculture becoming the foundation of later, complex states. The Formative (Central Mexico) or Preclassic (Maya region) period of Mesoamerican prehistory lasted from approximately 2000 B.C. to A.D. 250, a period of major cultural change in both lowlands and highlands. Sedentary villages traded with each other in raw materials and exotic objects. These exchange networks became increasingly complex and eventually came under the monopolistic control of larger villages. Increasing social complexity went hand in hand with the appearance of the first public buildings and the evidence of social stratification. These developments are well chronicled in the Olmec culture of the lowlands, which flourished from approximately 1500 to 500 B.C. Olmec art styles and religious beliefs were among those that spread widely over the Mesoamerican lowlands and highlands during the late Preclassic period.

Religious ideologies, ritual organization, and extensive trading networks were key factors in the development of Maya society in the lowlands after 1000 B.C. Classic Maya civilization flourished from A.D. 250 to 900 and consisted of an ever-changing patchwork of competing states. Maya glyphs show that Maya civilization was far from uniform. The Maya were unified more by religious beliefs, economic exchange networks, and forms of government than by any shared government. There was never a “Maya Empire”; rather, there was a series of city-states, some of which were able to dominate their neighbors. Until about A.D. 900, the largest states were in northeast Petén of Guatemala and adjacent areas of Mexico. Maya civilization reached its height in the Southern Lowlands after the seventh century, collapsing suddenly in the Yucatán after A.D. 900. The reasons for this collapse are still uncertain, but environmental degradation, pressure on the labor force, and food shortages were doubtless among them. New Postclassic states developed in the northern Yucatán, based on Chichen Itzá and other centers. Postclassic Maya civilization flourished until the arrival of the Spanish in the early sixteenth century.

CHAPTER 17

Highland Mesoamerica

FIGURE 17.0 Elderly Aztecs smoking, and enjoying pulque, a fermented beer-like beverage made from agave. From the Codex Mendoza, created in 1553 after the Spanish conquest. Universal History Archives/Getty Images.



The mother and her twelve-year-old daughter kneel side by side on small mats, their back-strap looms attached to wall posts. Comfortable straps also attach the looms to their waists. Cross beams of rolled-up, finished cloth lie across their bodies. Patiently, the mother shows her daughter how to keep the sheds apart, beating down the weft of the brightly colored cloth with a strong stick. Together, they pass fresh yarn over and under, creating an intricate pattern in the fine cotton fabric. The mother examines the girl's work with a

critical eye for she is in the final stages of an important apprenticeship. For generations, the family has woven fine garments for nobility, passing on patterns, ties, and carefully nurtured technique from mother to daughter, each working alongside one another until the quality of the young woman's work matches, or perhaps exceeds, that of her teacher. They know their work is important for the decoration, even the fabric itself, denotes the exact rank and privilege of the noble wearer.

CHAPTER OUTLINE

The Rise of Highland Civilization (2000–500 B.C.)
Monte Albán (500 B.C.–A.D. 750)
Teotihuacán (200 B.C.–A.D. 600)
- *The Planned City*
- *Neighborhoods and Social Divisions*
- *Collapse*

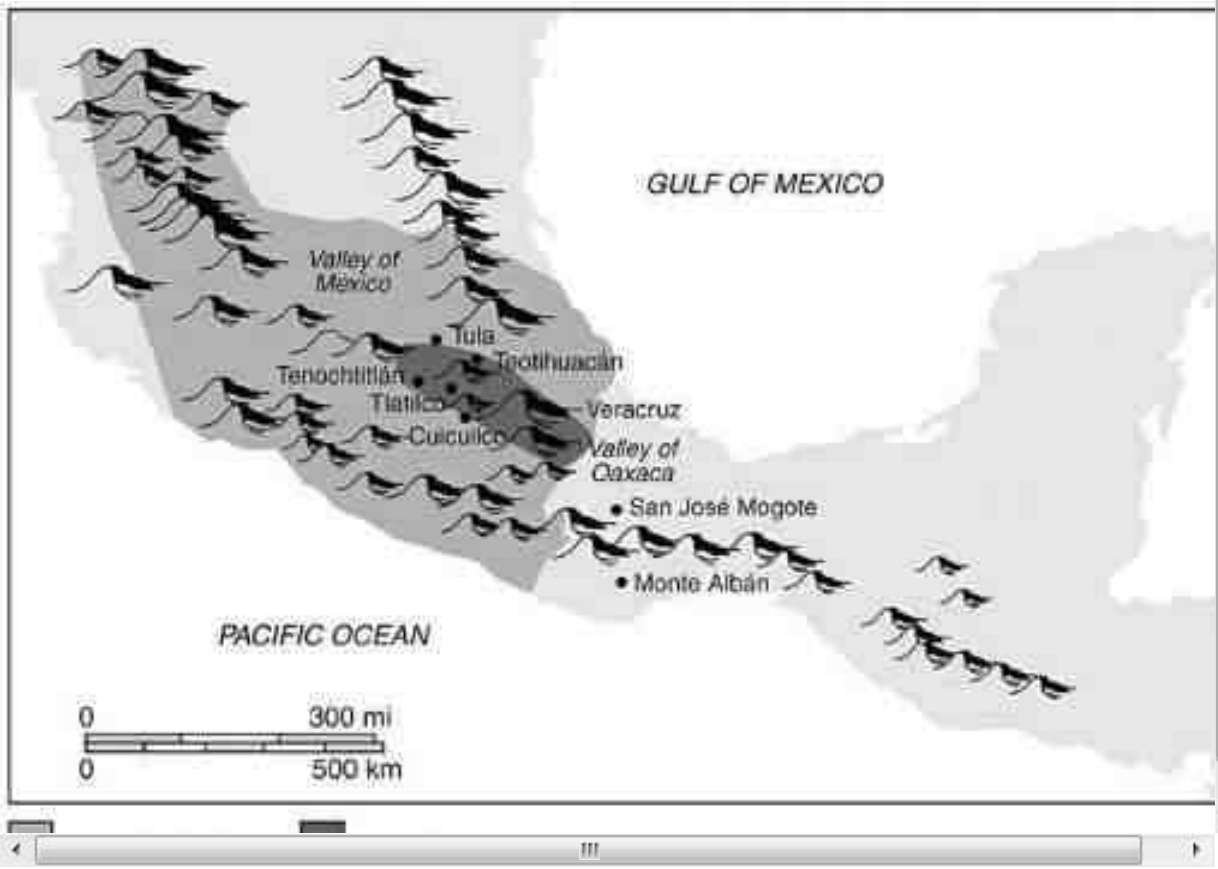
The Toltecs (C. A.D. 800–1150)
- *Tula*

The Rise of Aztec Civilization (A.D. 1200–1519)
- *Tenochtitlán* (A.D. *1487–1519)*
- *The World of the Fifth Sun*
- *The Aztec State*

The Spanish Conquest (A.D. 1517–1521)

Throughout the long history of Mesoamerican civilization, lowlands and highlands were linked inextricably to each other. (Frequent references to Chapter 16 will be made in this chapter.) Trade routes and common ideologies joined the societies of both environmental zones. The influence of great highland civilizations like that of Teotihuacán pervaded the lowlands for centuries, although only the vast but closely knit Aztec Empire of the fifteenth century A.D. brought the two contrasting regions under common political leadership. This chapter describes the highland Mesoamerican civilizations, which culminated in the complex, rapidly changing world of the Aztecs, disrupted catastrophically by the Spanish conquest of 1519 (see Table 16.1 and Figure 17.1).

FIGURE 17.1 Map showing archaeological sites and civilizations.



THE RISE OF HIGHLAND CIVILIZATION (2000–500 B.C.)

Many of the foundations of highland Mesoamerican civilization were laid in two areas: the valleys of Mexico and Oaxaca. Research undertaken in the Valley of Oaxaca by Kent Flannery, Joyce Marcus, and their colleagues beginning in the 1960s inspired a series of research teams in the decades since to explore the complex processes that led to the growth of cities and complex societies in that region. Long-term excavations and settlement survey at San José Mogote and in the wider Valley of Oaxaca, Mexico, provide rich evidence for the emergence of village life among the Zapotec people, and the transition from generally egalitarian societies to chiefdoms with ranked social inequality. Between 1400 and 500 B.C. San José Mogote grew to become the largest village in the valley and saw the construction of the first obviously non-residential, public architecture and the advent of new

writing systems. Such developments set the course for the subsequent emergence of state-level societies in Oaxaca.

The semi-arid Valley of Oaxaca has three arms that form a sort of wobbly letter Y, with the modern city of Oaxaca and the ancient city of Monte Albán at the point where the arms join. The northwestern branch is the Etla arm, the southern is Valle Grande, and the eastern is the Tlacolula arm. By 5000 B.C., mobile bands of hunter-gatherers in the valley were making use of maize and other domesticated crops to supplement their diets; however, sedentary agricultural communities did not appear until after 2000 B.C. The earliest farming villages were situated on the valley floors, where water supplies were more plentiful. Modern Oaxacan farmers use a simple form of "pot" irrigation in low-lying areas, keeping their crops close to shallow wells from which they can simply draw water for the growing plants in pots or buckets. Flannery has argued persuasively that the early Oaxacans used the same technique, which does not require large numbers of people to irrigate the fields. As local population densities rose, the Oaxacans were able to build on their simple and effective farming techniques, expanding onto slopes and into more arid lands with great success. Eventually, the economic power generated by these rising farming populations gave highland areas like this an edge over their neighbors.

The evolution of larger settlements in Oaxaca and elsewhere was closely connected with the development of long-distance trade. Local barter networks evolved into sophisticated regional trading organizations in which village leaders controlled monopolies of obsidian and its distribution. Soon magnetite mirrors (important in Olmec ritual), tropical feathers, and ceramics were traded widely between highlands and lowlands. The influence of the lowlands was felt most strongly in Oaxaca, where Olmec pottery and other ritual objects appeared between 1150 and 650 B.C. Many of them bear the distinctive were-jaguar motif of the lowlands, which had an important place in Olmec ideology (see Chapter 16). By this time, many parts of highland and lowland Mesoamerica were joined by common religious beliefs, and iconographic motifs including the importance of the jaguar and feathered serpent, even if local deities and cults varied considerably. The exotic objects handled in long-distance trade were vital to the legitimacy and prestige of the new class of leaders in Oaxaca, who may have aspired to the chiefly status of their lowland neighbors in the Gulf Coast.

The earliest occupation can be difficult to detect, but settlements from 1400 to 1150 B.C. are more readily identified because of a distinctive pottery style decorated with red bands, stripes, and chevrons. The typical hamlet consisted of five to ten households, each with four or five people living in a small house made from wattle and daub, with a yard and storage pits. Even in small homes there is evidence of long-distance trade including bones from the blue-green macaw (prized for its brilliant feathers), fragments of drums crafted from tropical turtle shell, marine shells and other materials imported from the lowland tropics and Pacific coastal regions, as well as obsidian from the highlands of Central Mexico. There were marine fish spines, too, almost certainly used in personal bloodletting ceremonies performed before the gods (see Chapter 16).

More than half of these early villages, including San José Mogote, cluster in the Etla arm, with some in Valle Grande, and fewer yet in the Tlacolula arm. People flocked to the Etla branch of the valley because it has the finest soils and plants can easily be sustained by moisture from rainfall, the water table, or simple canals. Modern data show these areas can dependably produce twice the maize of less-bountiful zones. Villagers also took advantage of wild game, plant foods, accessible firewood, and building materials from nearby forests on hill slopes. Carbonized seeds reveal a varied diet including domesticated maize, beans, squash, chilies, agave, prickly pear, and avocado.

While most of these small settlements are no more than 1–3 hectares (2.5–7.4 acres) in size, San José Mogote covered 7 hectares (17.3 acres). Estimates place the population of the valley at about 700 people by 1150 B.C., of whom 180 lived in San Jose Mogote. A series of burned post-holes, dated to about 1300 B.C., provide evidence for a defensive palisade encircling the village. Perhaps the leaders of San José Mogote sought to expand their influence through raids and incurred enemies.

The residents of San José Mogote constructed a number of buildings otherwise unique in the valley. These measure about 4 × 6 meters (13 × 20 feet), and are distinguished from common houses because they are aligned 8 degrees west of north (as were later religious building in Oaxaca); they contained many more pine posts (valuable resources), had floor and walls coated with plaster, were raised on low platforms, and had central storage pits filled with powdered lime. Drawing on analogy with more modern tribal and chiefly societies, Flannery and Marcus suggest that these were “men’s

houses," where a small number of high ranking males gathered for ritual and planning purposes. Three burials of middle-aged men (two from San Jose Mogote) were buried in seated and tightly bound positions, and these individuals may have achieved high status in their lifetimes. But these were not elites who had inherited elevated social status as in a chiefdom or state. Indeed, burials from this period in Oaxaca typically show little evidence of special treatment afforded individuals based on status.

Between 1150 and 850 B.C. the valley population rose to at least 2,000, of whom half lived in San José Mogote which had grown to cover 79 hectares (195 acres). Increasing economic and social inequality resulted from multiple causes. Among them, agricultural improvements with irrigation and rising productivity of domesticated crops helped to create surpluses and sustain higher populations, but this increases pressure on food resources. If some families lost their crops, they may have become indebted to others who provided food to see them through the crisis. Military pressure emerging from competition between communities encouraged people to form more nucleated communities, increasing population density and further encouraging differential access to resources, and likely lead to the appearance of military leaders who transformed success in warfare to claim fixed—and eventually heritable—positions of high status and leadership. So, too, some individuals may have consciously sought to aggrandize themselves and improve their social position through alliances, claims to unique ritual knowledge, or used their own surplus resources to host village gatherings that incurred social debts on others.

The leaders of San José Mogote at this time were likely chiefs who exercised authority over lesser chiefs in surrounding communities. Although these leaders could not muster the resources of their Olmec contemporaries at San Lorenzo or La Venta, the construction of two stacked platforms adorned with small sculptures (structures 1 and 2) which together stood about 3.5 meters high and 18 meters wide (11.5 × 59 feet) suggests the ability to direct a significant labor force. Burials during this period reveal the differential treatment of the dead. Some individuals had more elaborate grave architecture, some had more goods buried with them and their bodies placed in distinct positions, all hinting at an elevated status that was inherited. Houses, too, were of differing qualities. Some were simple, and poorly made with exposed mud-covered walls. Others had multiple work spaces and walls coated in whitewash. Many people had at least a few objects of wealth like

imported shell, jade, and mica, yet only a very few people merited objects made of magnetite.

Parallel processes were taking place at this time in other parts of the highlands, including the Valley of Mexico. Tlatilco, in the Valley of Mexico, was first settled by 1300 B.C.; it was a large village, covering over 65 hectares (165 acres) near a lake shore. The village has now been destroyed by the growth of Mexico City, but 340 burials there yielded lavish funerary goods, remarkable for the time. The dead were buried with clay figurines: figures of women who are carrying children or dogs; dancers with rattles around their legs; even males who wearing hand and knee protection used in ball games, although no ballcourts are known from this early date. Some Tlatilco art has strong Olmec overtones, again evidence for the pervasive influence of Olmec beliefs over much of Mesoamerica at the time.

By 700 B.C. the valley as a whole housed perhaps 3,500 people in 85 villages, 1,000 of them at San José Mogote. While its power in the Etla arm grew, less-populous chiefdoms emerged in the valley's other branches. Mound 1 rose to 15 meters (50 feet) in height, and eventually this once public structure was transformed into the elaborate residences of the town's elite. By 500 B.C. the authority of the community's chiefs was reinforced by the display of Oaxaca's earliest writing, the name of a sacrificial victim inscribed on a stone slab known as Monument 3. The monument depicts a bleeding individual, perhaps a war captive, placed flat on the ground where he could be trod upon in disgrace. By 400 B.C., however, San José Mogote was eclipsed by a new political order centered on Monte Alban, and it would never regain its central political position.

The basic Mesoamerican pattern of civilization was thus developed over more than 1,000 years in the highlands. In the Valley of Mexico, in Oaxaca, and elsewhere, a large center was ruled by an elite and served by a rural population living in lesser villages scattered throughout the surrounding countryside. By the close of the first millennium B.C., at least some of the centers, like Monte Albán, had achieved considerable size and complexity. The new highland elites presided over hierarchies of priests and officials and commanded the labor of hundreds, if not thousands, of farmers to build and maintain temples, pyramids, and palaces. They controlled large food surpluses, which supported a growing population of nonfarmers, that is, merchants and artisans. Their political power rested on their ability to coerce others, on well-established notions of social inequality, and above all on a

complex and often publicly reenacted social contract between rulers and their subjects. The people saw their leaders as intermediaries between the living and the ancestors, between their plane of existence and the spiritual world. An elaborate calendar and, later, writing regulated every aspect of ceremonial and daily life and helped generations of rulers in many kingdoms to legitimize their dynastic origins and their relationship to the gods. Highland civilization, with its carefully regulated agriculture, marketplaces, and lucrative trade monopolies, was to flourish for 2,000 years.

MONTE ALBÁN (500 B.C.–A.D. 750)

By the early first millennium A.D., the time when Classic Maya civilization flourished in the lowlands, two major territorial powers emerged to dominate the Mesoamerican highlands: Monte Albán in the Valley of Oaxaca and Teotihuacán in the valley of Mexico. Where the three arms of the Valley of Oaxaca meet, there are several hills, the highest of which rises 400 meters (1,312 feet). From its peak one has a view for miles over the surrounding countryside. Here the Zapotec people raised the great city of Monte Albán, which became the capital of an expansive state (Figure 17.2). The city was purpose-built between 500 and 400 B.C., and its population expanded rapidly. Monte Albán's rulers extended their power and authority through political, economic, and military means to dominate much of the surrounding region of southern Mexico for more than a millennium.

FIGURE 17.2 The central precincts of Monte Albán, towering on a hilltop above the Valley of Oaxaca, Mexico. Building J is the pentagonal structure at center, while Building L with its Danzante figures is at center left. Photo used with permission of Marc Levine, Proyecto Geofísico de Monte Albán.

Monte Albán became an elaborate complex of palaces, temples, and plazas, some of which served as ritual settings, others as markets. Its rulers built roads, defensive walls, and water-control systems that stored rainfall for domestic use and channeled it to fields on the slopes below. The city straddled three hills, with at least fifteen residential subdivisions, each with its own plazas. Most inhabitants lived in small houses erected on irregular stone-faced terraces built against the steep terrain. Each dwelling had a central courtyard, where the family tomb was located. Years of archaeological excavation and survey have mapped extensive terrace systems and an enormous ceremonial precinct centered on a paved main plaza. This ritual ward evolved over more than 1,000 years of continuous rebuilding and modification, which had the effect of progressively isolating the plaza and those who lived around it from the rest of the city. The Late Classic plaza, in use from A.D. 500 to 720, was 300 meters long and 150 meters across (975 × 480 feet), bounded on its south side by a 12-meter-high (37-foot-high) platform mound with staircases leading to buildings on top, and on its north side by a large palace built around a central patio. A ceremonial ball court and other platform mounds delineated the eastern and western boundaries, with a central line of buildings between the northern and southern mounds.

Monte Albán is a modern Spanish name, and no record exists of the ancient Zapotec name for the city. We know that the city was founded no earlier than 500 B.C., when the hilltop was leveled to create the Main Plaza

and settlement began to grow up around this public space. The new center quickly emerged as the most populous and powerful settlement in Oaxaca, with people immigrating to Monte Albán from elsewhere in the valley. By 400 B.C. the city's population had boomed to about 5,000, while the population of San José Mogote, previously the largest village in the valley, plummeted. Monte Albán accounted for more than half of the total population of the Valley of Oaxaca, at a time when most of the 260 documented villages in the valley had populations of fewer than 100 people. Early settlement at Monte Albán was apparently divided into three distinct neighborhoods, which archaeologists typically refer to as *barrios*, with the earliest houses made of pole and thatch and even public buildings likely had thatch roofs.

Whatever the origins of the early settlers at the new capital, some chiefdoms in Oaxaca including Tilcajete in the Valle Grande arm of the valley offered formidable resistance to incorporation in the new Monte Albán state. Radiocarbon dates and ceramic evidence indicate that even as Monte Albán grew after 400 B.C., populations in the Tilcajete region began to concentrate in a new hilltop capital that could be better defended from attackers. More complex palaces and multi-room temples were built in this new Tilcajete capital, and three additional tiers of settlement size grew up in the area. Many archaeologists interpret such four-tier settlement hierarchies as an indicator of the complex administrative organization of a state, replacing a two- or three-tiered hierarchy more typical of chiefdoms. The idea is that there is a single capital, a few secondary centers with smaller populations and less-complex and -complete economic or governmental functions, more third-level settlements, with the most abundant being small rural hamlets of the fourth rank. Rulers and their functionaries run the capital, administering and drawing on the resources of secondary centers, the governors of which in turn administer the next smaller centers and so forth. It may have been precisely the military and economic pressure from Monte Albán that encouraged the development of state institutions in Tilcajete. By 100 B.C., the fortified capital of the Tilcajete polity was overcome and its buildings burned, its political role replaced by a newly established secondary center under the control of Monte Albán.

Resistance in the Valley of Oaxaca may have encouraged the rulers of Monte Albán to look for easier conquests in more distant valleys including the Cañada de Cuicatlán to the north and the southern Ejutla and Sola de

Vega valleys, as far as 75 kilometers (47 miles) away. Populations there were smaller and organized into less-centralized, less-formidable chiefdoms. Though a point of debate, some archaeologists argue that evidence for conquest by the forces of Monte Albán of these more distant areas includes the more widespread use of gray ware pottery associated with Monte Albán, as well as the centralization of settlements in response to pressure from Monte Albán.

By 200 B.C. Monte Albán's population had reached approximately 17,000, making it among the largest and most densely populated cities in Mesoamerica. At its most populous, by A.D. 500, perhaps 30,000 people lived within 6.5 square kilometers (2.5 square miles) of the site center. Houses clustered within easy visual range of major public or ritual buildings, adjacent to roads, or to the walls where lookouts were posted, perhaps as a means by which figures of authority could observe and control the populace. Elaborate family tombs, many painted and filled with luxurious items, distinguish the houses of the wealthy from those of more modest homes with far simpler interments. As the city grew building materials for houses shifted to adobe walls with stone foundations, suggesting greater labor investment in housing, and perhaps also a desire to maintain greater privacy in an urban environment than the thin walls of pole-and-thatch homes could provide. The hillside was terraced for housing and agriculture, with a complex system of roads to move people and channels to move water established.

Despite its defensible hilltop location and seeming military might, Monte Albán was evidently not secure from attack. Its residents invested in the construction of a wall that measured 9 meters (29.5 feet) high and 20 meters (65.6 feet) wide in some sections, running at least 2 kilometers (1.2 miles) around much of the northwestern side of the hill, with partial walls elsewhere. The wall may have served multiple roles, including as a social barrier separating different classes, to control access into and out of the city, and defense of the capital from attacking forces.

The rulers of Monte Albán bolstered their authority through programs of sculpture and writing displayed in the Main Plaza. Among the earliest monuments at the site are the hundreds of stone slabs of known as *danzantes*, or "dancers," found primarily in and around Building L (Figure 17.3). They are carved in low relief and depict figures of contorted males, some with blood emanating from their groins. They bear a close resemblance to Monument 3 from San José Mogote, and like that monument they have been

interpreted as captive warriors and sacrificial victims. If this interpretation is correct, Zapotec glyphs alongside the bodies may name the figures or their captors.

FIGURE 17.3 The main facade of a buried version of Building L, with the lowest row of orthostats in situ depicting personages in a procession, some of them with their glyphic names, c. 400 B.C. Photo courtesy of Javier Urcid.

However, because the danzantes are durable they were moved and reused in later constructions and it is impossible to reconstruct their original context or their precise chronology. Only in part of Building L is there a cluster of danzantes in something resembling their original positions. These in-context figures appear not dead and immobile, but rather form a procession. This may be a ceremony involving anonymous commoners and named noble actors

arrayed according to their age groups. The genital bleeding that has been taken by many as a sign of sacrificed captives may instead represent ritual auto-sacrifice of blood, an important component of religious life practiced by monarchs, nobles, and commoners across Mesoamerica. Smaller horizontal figures above the larger images are called “swimmers” by scholars, and probably depict revered ancestors looking down on their descendants.

Arguably more direct evidence for Monte Albán’s power and military success comes from the sculptures of Building J on the Main Plaza, a structure with a unique form. Building J is roughly pentagonal with a distinct point, often described as “arrowhead shaped,” that is skewed about 45 degrees east from the general site axis running just east of north. The façade of Building J includes low-relief sculptures that depict the glyphic representations of hills, many with heads suspended below them. Many scholars support the notion that these are “conquest slabs,” with the named hills representing other towns and cities, and the suspended heads indicating defeated rulers. An alternative possibility is that the hill symbol represents a location at Monte Alban itself, and the suspended heads represent an ancestor or other deceased and revered local personage. Thus, it is possible that like the danzantes they emphasize the communal life of Monte Albán itself, and not its dominance over other centers. However, like the danzantes these so-called conquest slabs were reused, often in fragments. They were likely originally part of a building constructed between 300 and 100 B.C., and were then incorporated into at least three different versions of Building J built between A.D. 200 and 700, and in the final construction utterly obscured by a covering of plaster. The loss of their original architectural context hampers our ability to fully understand the original significance of either the danzantes or the conquest-slabs, and their meaning clearly changed through time as they were put to new uses.

Early in the occupation of Monte Albán there was a significant change in the ceramics made and used in Oaxaca. Among the new forms that emerged was the comal, a ceramic griddle used to make maize tortillas that would later become ubiquitous across Mesoamerica. The importance of the comal comes from the complexity of using maize as a staple grain. Raw maize holds nutrients that human digestion cannot naturally release, most critically vitamin B3 (niacin), a deficiency of which can lead to a potentially fatal disease called pellagra. Soaking maize kernels in water with a basic chemical like lime or wood ash is called *nixtamalization*. This process releases the

niacin for use in the body, and also makes available an amino acid (the building blocks of proteins) such that eating processed maize with complementary foods like beans yields a complete protein. Processed maize can then be ground into dough and made into tortillas on a comal. Tortillas can be eaten fresh or dried and kept for days, providing a nutritionally rich food in a light-weight, portable, and durable form that could more effectively feed laborers and warriors. The comal and tortilla were thus critical pieces of the political and economic toolkit of the Monte Albán and later states across Mesoamerica.

Throughout the Early Classic period, from A.D. 300 to 500, Monte Albán continued to dominate the Oaxacan highlands. There were economic and political contacts between Oaxaca and Teotihuacan, the great power in Central Mexico, evident in pottery found at Monte Albán and Teotihuacan. Reliefs from Monte Albán also show figures from Teotihuacán, perhaps diplomats.

In fact, a neighborhood of Zapotec immigrants from Oaxaca has been identified at Teotihuacan based on burials and pottery found there. As the centuries passed, however, the power of the Monte Albán state fragmented. During the Late Classic period, from A.D. 500 to 900, smaller centers in the Valley of Oaxaca began to assert their independence. By A.D. 900, Monte Albán had been largely abandoned though it continued to be visited, and new burials were placed in its tombs for centuries to come. We do not know precisely why the Monte Albán state collapsed after so many centuries. However, its failure was undoubtedly part of the wider wave of political change that swept over all of Mesoamerica, as once dominant capitals in other regions like Teotihuacan and Tikal give way to new powers such as Tula and Chichen Itza. The city never regained its importance and became just one of several competing Postclassic towns in the Valley of Oaxaca.

TEOTIHUACÁN (200 B.C.–A.D. 600)

As Monte Alban rose in Oaxaca, Teoithuacan was rising to prominence in Central Mexico. Teotihuacan was the greatest Mesoamerican metropolis of the Classic period, yet much about it remains a mystery. We do not know whether this expansive state had kings and queens, was governed by a council, or had yet another form of administration. Nor are we certain what language the rulers of Teotihuacan spoke. Even the name of the city and its

major places such as “The Avenue of the Dead” and “The Pyramid of the Sun” come to us from the sixteenth-century Aztecs who revered the ruined city. What we do know is that from at least A.D. 100 to 575, there was no larger city in the Americas. Its economic and political reach extended across Mesoamerica and its cultural influence persisted long after its political collapse.

The Basin of Mexico is a semi-arid highland valley surrounded by a ring of volcanoes, and was once filled by a chain of lakes, now almost entirely drained and buried beneath Mexico City and its suburbs. Teotihuacan (meaning “the place where the gods were born” in the Nahuatl language of the Aztecs) lies off the northeastern corner of this basin, where rainfall averages c. 500 millimeters (20 inches) annually. This is the lower limit for the successful cultivation of staple crops like maize and beans without irrigation. For farmers reliant on precipitation, even a slight reduction in the yearly rains could mean famine. The earliest settlers moderated that danger by founding villages around natural springs and streams that run out from the Cerro Gordo, a basalt mountain c. 3 kilometers (2 miles) north of what would become the heart of the city. Over the centuries the valley’s residents undertook extensive irrigation projects channeling water from these springs and rivers, providing a more secure base for agriculture.

Research at Teotihuacan has been almost constant for over a century, since modern excavations were begun under the direction of pioneering Mexican archaeologist Leopoldo Batres in 1905, followed later by Miguel Gamio, Jorge Acosta, and others. Revolutionary archaeological programs of urban mapping and regional surveys undertaken in the 1960s by René Millon and William Sanders revealed ancient settlement dynamics in the region. Settled occupation in the Basin of Mexico began in the Early Formative (2000–1000 B.C.), and by 500 B.C. many significant towns had grown up. In the last few centuries B.C., Teotihuacan became a major regional center, with a population of c. 20,000 in an area covering 6–8 square kilometers (2.3–3.0 square miles). Yet, while Teotihuacan’s rulers of this period had significant local authority they did not dominate other centers in the basin. However, between about c. 100 B.C. and 100 A.D. a significant demographic and political shift took place. The population of most of the basin plummeted, leaving whole towns abandoned. As many as 50,000 displaced people resettled in Teotihuacan and surrounding villages, and the city emerged as the dominant power in Central Mexico.

What caused such a dramatic change? Teotihuacan was certainly rich in resources. It controlled two nearby sources of obsidian, one of which at Pachuca produced a unique green obsidian. Because green was the color of abundance and wealth in Mesoamerica, Pachuca obsidian was highly valued in ritual offerings and burials across Mesoamerica. Yet most of Teotihuacan's obsidian tools were made for local use, not for export, and such trade offers no ready explanation for sudden population growth. It has also been proposed that Teotihuacan's irrigation system allowed surplus production of crops to feed a growing population, and encouraged the rise of a state apparatus to manage labor and the distribution of goods. But the irrigation system was increasingly filled in as the city expanded, and the lakes of the Basin of Mexico provided a more immediately productive zone than the arid area around Teotihuacan.

The population shift may instead have had much to do with the relative safety of Teotihuacan's location. Some 57 kilometers (35 miles) to the southwest of Teotihuacan, buried under the southern neighborhoods of Mexico City, lies Cuicuilco. Perhaps the earliest urban center in the region, Cuicuilco was buried by a lava flow from a nearby volcano. Archaeologists have long hypothesized that the destruction of Cuicuilco removed Teotihuacan's most significant competitor, and drove farmers off the charred landscape. However, radiocarbon dating of carbonized plant remains and archaeomagnetic dating of the lava suggest that Cuicuilco was buried between 50 B.C. and A.D. 250, possibly too late to account for Teotihuacan's growth. Moreover, some of Cuicuilco's major buildings were already in ruins before the city was covered by lava suggesting its decline had other causes.

Perhaps more important was an eruption in the first century A.D. of Popocateptl, a snow-capped volcano on the southeastern edge of the basin that spread ash and pumice in a wide arc east of the mountain. This eruption was so powerful that tremors likely impacted the western side of the volcano and the area around Cuicuilco as well. We need more precise dates to know whether one or both of these eruptions encouraged Teotihuacan's rapid growth, but such events speak to the risk of volcanic eruptions and associated earthquakes in the southern Basin of Mexico that may have driven people to the relative safety of the metropolis in the north.

The Planned City

By A.D. 300, Teotihuacan covered at least 20 square kilometers (8 square miles) and its population had grown to perhaps 125,000 or more, making it similar in size to all but the very largest cities of the contemporary Near East and China. The Teotihuacános built 600 pyramidal shrines, ranging from the miniature to the truly massive, 500 workshop areas, a great marketplace, 2,000 apartment complexes, and as many plazas. Even today, deserted, partially restored, and devoid of its inhabitants, Teotihuacán overwhelms one with its sheer size and with the monumental scale of its pyramids and plazas, which dwarf mere people into insignificant dots—as, indeed, their builders intended them to. The city had expanded quickly, but not haphazardly. It followed a planned grid unusual in Mesoamerica. Teotihuacan is organized around the Avenue of the Dead, about 50 meters (164 feet) wide, which runs for at least 2 kilometers (1.24 miles) along a primary axis c. 15.5 degrees east of north (Figure 17.4). Archaeologist Saburo Sugiyama has argued based on precise mapping that the layout of the city and dimensions of major constructions were guided by multiples of calendrical Mesoamerican calendrical cycles, such as the 260-day lunar and 365-day solar calendars, as well as a local "Teotihuacan measurement unit" measuring about 83 cm (32.68 inches). The obvious planning of the city suggests that major works were undertaken with the direction of a hierarchical political leadership, though whether there was a singular monarch or a ruling clique remains to be securely determined.

FIGURE 17.4 Teotihuacán showing the Pyramid of the Sun (back left) and the Avenue of the Dead, looking southward from atop the stairs of the Pyramid of the Moon.
j.o.photodesign/Fotolia

At the avenue's northeastern end lies the Moon Pyramid, while the massive Sun Pyramid sits along its eastern side. About 1.47 kilometers (0.92 miles) southwest of the Moon Pyramid, the small San Juan River cuts directly across the avenue, forced into a linear channel by the city's designers. Just south of the river, the smallest of the city's three great pyramids, the Temple of the Feathered Serpent, is nestled in the huge precinct of the Ciudadela ("Citadel") on the avenue's southeastern side. Opposite the Ciudadela (and beneath the modern car park and visitors' center) sits the Great Compound, encompassing a large plaza which some argue was a marketplace or trade depot. The Ciudadela and Greate Compound seem to sit at an east-west axis of roads, and the Avenue of the Dead itself arguably continues southward for some distance to the narrow San Lorenzo River, perhaps creating a quadripartite division of the city. The seeming eastern and western branches of the avenue, however, are less clearly defined than the north-south trunk, and the southern extension is not lined by the massive platforms that clearly define the roadway from the Ciudadela and Great Compound northward.

Excavations into the deepest levels of the Moon Pyramid have yielded charcoal, radiocarbon dated to C. A.D. 100, revealing this to be the oldest of

the monumental buildings along the Avenue of the Dead. The tunnels have also revealed that there were no fewer than seven versions of the pyramid, built one atop the other creating an effect like Russian dolls. Rich offerings were interred with each construction phase, including human sacrifices. The final structure, dating to C. A.D. 400, stands 43 meters (141 feet) high, and was clearly intended to echo in its shape and outline the massive Cerro Gordo which dominates the horizon behind it. A tunnel recently discovered running beneath the Moon Pyramid may resemble similar features found beneath the Sun and Feathered Serpent pyramids, but remains to be formally excavated.

At the beginning of the third century A.D., Teotihuacan's builders undertook the even more impressive feat of raising the Sun Pyramid, largely in a single construction effort (though a much smaller non-pyramidal platform underlies it). At 225 meters (733 feet) across and 75 meters (246 feet) high, it is the tallest ancient structure in Mesoamerica, and nearly as large at the base as the Great Pyramid of Egypt. More than 1,175,000 square meters (12,648,008 square feet) of rubble and sun-dried brick form the core of this stupendous construction. The Sun Pyramid is aligned just off the major axis of the Avenue of the Dead, possibly so that viewers atop the pyramid could look toward the setting sun on 13 August and 29 April, dates 260 days (a full cycle of the ritual lunar calendar) apart. For the Maya, 13 August was the date of creation in 3114 B.C. and may have had similar significance at Teotihuacan.

While digging trenches for the installation of a sound-and-light show in 1971, archaeologists chanced on an ancient tunnel dug into the underlying bedrock. It runs 100 meters (330 feet) eastward and 6 meters (20 feet) below the pyramid from the position of the main stairway, ending in a cloverlike set of four chambers. These chambers were used for the placement of special offerings and perhaps royal burials, though this remains speculative as the deposits were largely removed in antiquity. This tunnel system was long considered a natural feature modified by the Sun Pyramid's builders, and was perhaps the very reason that the Sun Pyramid was constructed where it was. Yet recent excavations strongly suggest that it is entirely artificial and built at about the same time as the pyramid itself.

The Sun and Moon Pyramids were once covered in brightly painted plaster and supported temples at their summits. Although the identities of the deities worshipped in these temples remain uncertain, there have been suggestive findings. Near the base of the Moon Pyramid researchers found a

large sculpture that may represent the “Great Goddess,” a clawed figure associated with abundance that appears in murals, on pottery and in figurines found across Teotihuacan. Buried atop the Sun Pyramid was a sculpture of the fire god known to the Aztecs as Huehueteotl. Another important member of the Teotihuacan pantheon was the goggle-eyed god of rain and warfare known to the Aztecs as Tlaloc. He appears prominently in artwork throughout the city, and in imagery associated with Teotihuacano warriors found across Mesoamerica.

On the eastern side of the southern end of the Avenue of the Dead is the Ciudadela. This complex of buildings covering 16 hectares (c. 40 acres) includes a large plaza that by some estimates could hold up to 100,000 visitors, nearly the entire population of the city. At the plaza’s center stands the Temple of the Feathered Serpent, built toward the beginning of the third century A.D. (Figure 17.5). It was constructed in the talud-tablero style so closely associated with Teotihuacan and was once painted in vibrant colors. The sloping talud and flat tablero of the platform depict the undulating bodies of the feathered serpent, a deity known as Quetzalcoatl by the Aztecs and Kukulkan by the Maya at Chichen Itza. This was a deity often associated with martial imagery and practices, and these representations at Teotihuacan are no exception.

FIGURE 17.5 Temple of the Feathered Serpent, Teotihuacán. The body of the Feathered Serpent (known as Quetzalcoatl to the Aztecs) undulates along the building, while his head juts forth with its toothy mouth. Sitting along the serpent’s body are representations of the reptilian shell platelet headdresses associated with Teotihuacan warriors. Charles Golden.

The façade's military imagery is underscored by mass burials found in and around the pyramid. More than 200 sacrificed men and women, old and young, were buried here. Graves along three sides of the pyramid each contained eighteen male and female sacrificial victims, their arms tied behind their backs. The men were dressed as warriors and accompanied by weapons including obsidian-tipped projectiles. Isotope studies of the teeth and bones indicate that some of the men had spent most of their lives in the vicinity of Teotihuacan, but more came to Teotihuacan from elsewhere when they were adolescents. The female skeletons show similar patterns.

Below the Feathered Serpent pyramid, Sergio Gómez has recently led the exploration of a tunnel discovered when an unusual sinkhole opened up in the plaza of the Ciudadela. Over years of careful excavations, and with the help of a remote-controlled robot camera to spy the way ahead, Gómez and his team cleared an ancient human-made underworld filled with rubble and offerings in pits along its length, which extended some 100 meters (330 feet) ending beneath the heart of the Temple of the Feathered Serpent. Mercury

found in the tunnel may have represented a watery underworld, while ground pyrite embedded in the walls would have been shimmering stars in torchlight. Along the tunnel and in the three chambers at its end beneath the pyramid, archaeologists found thousands of offerings. In the end chambers were chipped stone knives, necklaces, boxes of beetle wings, jaguar bones, balls of amber, and a pair of stone statuettes facing the back walls of the chamber in which they were discovered. Together with tunnels beneath the Moon and Sun pyramids, it is evident that such features were critical to Teotihuacan's builders. The tunnels created the underworld necessary for the pyramid's representation of the mountain and upperworld, replicating the universe in the city's monumental architecture.

Box 17.1 Discoveries *Life in Teotihuacán's Neighborhoods*

Teeming neighborhoods of single- and multi-story, flat-roofed, rectangular apartment compounds complete with courtyards and passageways lay beyond Teotihuacán's ceremonial precincts. Narrow alleyways and streets about 3.6 meters (12 feet) wide separated each compound from its neighbors. Each housed between twenty and hundred people, perhaps members of the same kin group. Judging from artifact patternings, some sheltered skilled artisans, families of obsidian and shell ornament makers, weavers, and potters.

What was life like inside Teotihuacán's apartment compounds? Mexican archaeologist Linda Manzanilla has investigated one such complex close to the northwest edge of Teotihuacán, searching for traces of different activities within the complex. The stucco floors in the apartments and courtyards had been swept clean, so Manzanilla and her colleagues used chemical analyses of the floor deposits to search for human activities. She developed a mosaic of different chemical readings, such as high phosphate readings where garbage had rotted, and dense concentrations of carbonate from lime (used in the preparation of both tortillas and stucco) that indicated cooking or building activity. Manzanilla's chemical plans of the compound are accurate enough to pinpoint the locations of cooking fires and eating places where the inhabitants consumed such animals as deer, rabbits, and turkeys. She was able to identify three nuclear families of about thirty people who

lived in three separate apartments within this community inside a much larger community. Each apartment had specific areas for sleeping, eating, religious activities, and funeral rites.

Teotihuacán's neighborhoods have revealed intense interactions between people who knew one another well and between these tight-knit communities and the wider universe of the city itself. Walking along one of the cleared streets, you can imagine passing down the same defile 1,500 years earlier, each side bounded by a bare, stuccoed compound wall. Occasionally, a door opens onto the street, offering a view of a shady courtyard, of pots and textiles drying in the sun. The street would have been a cacophony of smells and sounds—wood smoke, dogs barking, the monotonous scratch of maize grinders, the soft voices of women weaving, the passing scent of incense.

Teotihuacán was a vast urban community made up of hundreds of smaller communities, with a market that sold commodities and exotic luxuries from their foreign trade, valued so highly that they allowed foreigners to settle among them in special precincts occupied over many centuries. Immigrants from the Veracruz region of the lowlands lived in a neighborhood on the city's eastern side, identified from the remains of distinctive circular adobe houses with thatched roofs identical to those of the inhabitants' Gulf Coast homeland. These people, easily identified by their orange-, brown-, and cream-painted pots, probably traded in exotic tropical luxuries such as brightly colored bird feathers. Another neighborhood on the western side housed Zapotec traders from the Valley of Oaxaca, 400 kilometers (250 miles) south of Teotihuacán. Potsherds from their segregated compounds allow us to identify their presence in the crowded city, from all over the Mesoamerican highlands and lowlands.

Neighborhoods and Social Divisions

Spreading out around the Avenue of the Dead lay more than 2,000 apartment blocks, including many districts for foreign artisans and merchants from Oaxaca, the Gulf Lowlands of Veracruz, and the Maya region, among others. This was a truly cosmopolitan city (Box 17.1). Most people lived in standardized, walled residential compounds up to 60 meters (200 feet) on

each side, often with their own shrines, connected by narrow alleyways and compounds. Some were multi-storied and housed as many as one hundred people. The compounds presented a windowless facade to the street but opened inward onto courtyards, providing residents with privacy, even in the hubbub of the busy city. Groups of apartments were clustered in neighborhoods or *barrios*. Such wards were likely based on both kin ties and commercial considerations, with some neighborhoods exhibiting obvious clusters of craftspeople, like obsidian workers and potters. There were significant differences in wealth between apartments within a barrio, but these distinctions were even more pronounced between barrios, suggesting a social barrier between the rich and the poor of the city. Yet archaeologists modeling social inequality in ancient Mexico argue that Teotihuacan exhibits smaller differences in wealth between households, and greater evidence of social cooperation among the populace, than contemporary societies elsewhere in Mesoamerica.

Like so many modern cities, immigrants to Teotihuacan seem to have been drawn by economic opportunities, and the cultural power of the great capital. The Oaxaca Barrio is a Zapotec enclave west of the Avenue of the Dead that, to judge by the tools found there, housed plaster-working specialists. The barrio's residents lived in standard Teotihuacan-style apartment compounds, but made and used Oaxacan-style figurines, incense burners, and pottery. One courtyard also contained a monument with Zapotec writing. Isotope studies on skeletons excavated in the barrio confirm that many people spent at least part of their lives in Oaxaca. Elsewhere in the city, the Merchants' Barrio exhibits round houses typical of the Gulf Lowlands, as well as Maya pottery imported from the Lowland and Highland Maya regions to the south. Although the influence and power of Teotihuacan in the Maya region was profound (see Chapter 16), there can be no denying the importance of Maya artisans at Teotihuacan, further attested by legible Maya texts included in the beautifully painted murals of the Tetitla apartment compound. Indeed, among the most fascinating of recent discoveries at Teotihuacan are finds by an international team digging at the Plaza of the Columns compound along the western side of the Avenue of the Dead. There, excavations have uncovered more murals and piles of broken pottery from feasts, all decorated with Maya-style imagery.

Murals found preserved in other apartment blocks are among the most spectacular finds at Teotihuacan, depicting ritual processions, watery

paradises, birds, butterflies, and more. The most famous of these artistic masterworks comes from the Tepantitla palace, 750 meters (2,460 feet) southeast of the Pyramid of the Sun. Here a deity—perhaps the goddess who created the Teotihuacáno universe—dominates the paradisical landscape of the rain deity, known as Tlaloc by the Aztecs. From these divine beings flows abundance, surrounding a mountain with springs at the base. People dance and sing nearby, while butterflies play among flowering trees. Although no ballcourts have been found at Teotihuacan, the mural shows such playing fields with athletes bouncing the rubber ball between them, while other groups seem to be involved in acrobatic games. In adjacent rooms, processions of richly garbed humans scatter offerings from bags, shown as shells and flowering plants, emphasizing the themes of agricultural wealth and fertility. Whether these are portraits of individuals, or anonymous representations we do not know (Figure 17.6).

FIGURE 17.6 Murals at the Tepantitla compound show (*above*) the rain god looking down on a paradisical landscape, while (*below*) in another room, figures march in a procession scattering symbols of fertility and life. Charles Golden.

Among the painted images are many instances of writing in a glyphic system that has yet to be fully deciphered, in no small part because we do not know which language was being recorded. Writing also appears on pottery and carved in stone monuments. The script was largely logographic, in which a single symbol indicated a single word, though there may also have been some syllabic symbols. Numbers, often presented as components of dates in the 260- and 365-day calendars common in much of Mesoamerica, appear as combinations of bars for the number “5” and dots for “1,” much as in the Maya script. Most instances of writing consist only of a single calendrical day name and number, a place name, or a personal name, although there are a few longer texts and in one apartment compound as many as 42 glyphs were painted on the floor and walls.

Prominent nobles occupied the most elaborate palaces close to the Avenue of the Dead with central, sunken courts. Their palaces were flat-roofed, with numerous rooms and forecourts, the walls adorned with religious murals. Yet where did the city’s rulers live? Some of the architectural complexes along the Avenue of the Dead, including the Ciudadela, and the elaborate Xalla apartment compound north of the Sun Pyramid have been proposed as royal palaces. Yet because no royal tombs have so far been found and no writing obviously records their names, the rulers of Teotihuacan remain anonymous and their homes not securely identified. Other powerful states in Central Mexico, including the Postclassic Tlaxcalans—powerful holdouts against the expansion of the Aztec Empire—were governed by a council rather than a singular ruler, and perhaps Teotihuacan had a similar administration. However, some scholars argue that if we could better understand Teotihuacan iconographic and writing systems we would be able to identify a king or dynasty in the city—perhaps “Spearthrower Owl” named in Maya texts at Tikal. The mystery of rulership at Teotihuacan remains one of the most pressing questions for Mesoamerican archaeologists. Teotihuacán’s rulers—whoever they were—controlled the destinies of about half a million people, but the city’s main impact on lowland and highland Mesoamerica was economic, ideological, and cultural. There can be little doubt that Teotihuacan was a significant military power, and the sacrificial burials of the Feathered Serpent pyramid reinforce that inference. Whether it was an imperial power, however, expanding and encompassing smaller states like the later Aztec Empire is a point of some debate. A carefully nurtured ideology

made the great city remembered across Mesoamerica as a place of creation, and one of the very cradled of civilization.

Collapse

Teotihuacan's dominance ended in a conflagration around A.D. 550–575, according to radiocarbon dating of charcoal and archaeomagnetic dating of burnt stucco. All of the major buildings along the Avenue of the Dead were consumed by fire, and across the city more than 50 percent of temples were burned. Yet fewer than 15 percent of apartment compounds were set ablaze. Thus, it has been suggested that the people of the city rose up in revolt, sparing homes but targeting the symbols and places of oppressive rulership. Research also continues into the possible impacts of drought and disease on the failing fortunes of the city.

The collapse of the Teotihuacan state did not precipitate the end of the Classic period, which continued for centuries elsewhere. Nor were the causes of Teotihuacan's failure the same as those implicated in the later collapses of cities like Monte Alban, or the Maya kingdoms of the lowlands (see Chapter 16). The end of Teotihuacan's dominance did, however, enable other powers in Central Mexico to emerge or expand, including eventually Tula. The population at Teotihuacan plummeted to c. 20,000–40,000 residents, but the city remained a significant local center into the sixteenth century when it was still a major provincial settlement in the Aztec state. Its ruins were revered, and it became, along with Tula, a place of origin for Aztec rulers who incorporated objects recovered from Teotihuacan as offerings in their own capital at Tenochtitlan.

THE TOLTECS (C. A.D. 800–1150)

Teotihuacán had acted as a magnet to the rural populations of the highlands for many centuries, and other than perhaps Cholula in Puebla it had no peers in Central Mexico in terms of scale. When the great city collapsed, its inhabitants moved outward as other central Mexican cities expanded into the political vacuum left by its conquerors. None of them achieved the stature and ritual authority of Teotihuacán, and political authority passed rapidly from one growing city to the next. Eventually, one group achieved a semblance of dominance: the Toltecs.

The Aztecs considered the Toltecs great warrior heroes, magnificent conquerors who swept all before them. To be of Toltec ancestry was to have high social status in Aztec society. Righteous and wise, expert astronomers and artists, the Toltecs were painted as the very founders of militaristic civilization. As a result, they attributed great deeds to what may have been legendary figures. In a sense, Aztec propagandists may have created Toltec history for public consumption, when reality may have been very different.

We know that, like other highland peoples, the Toltecs comprised various ethnic groups. According to later quasi-historical Aztec accounts, the first Toltec leader was the legendary Mixcoatl ("Cloud Serpent"), who brought his people into the valley of Mexico to settle at Colhuacán. The same sources say that he was succeeded by his son Topiltzin Quetzalcoatl, born in the year 1 Reed (A.D. 935 or 947; Mesoamerican days had a number and name). Aztec accounts claim that it was he who moved the Toltec capital to a place called Tollan, "Among the Cattail Reeds," and associated with the archaeological site of Tula. During the eleventh and twelfth centuries, the Toltec state reached its greatest extent, controlling much of central Mexico from coast to coast. If Aztec legends are to be believed, this was a period of great prosperity, when the Toltecs acquired great wealth and a reputation for brilliant craftsmanship.

Tula

Tula was not the largest city of Mesoamerica. It is dwarfed by earlier Teotihuacan and the later Aztec capital of Tenochtitlan. Yet, when the Mexica rulers of the Aztec Empire gazed back across the centuries to understand the origins of culture, agricultural bounty, civilization, and statecraft they looked to a land they called Tollan, meaning "Among the Cattail Reeds," ruled by the mighty Toltecs. For the Aztec kings Tollan and the ruined city of Tula were one and the same. Tula thrived from A.D. 850 to 1150 as the capital of one of the most important states in Mesoamerica. The city center may have reached a population of 60,000 inhabitants in an area of 16 square kilometers (6.4 square miles), with additional outlying settlements, and its rulers governed a yet larger territory. The craftspeople, traders, and rulers of Tula were engaged in a far-flung cultural and economic network that reached across Mesoamerica and the Toltecs were remembered for centuries to come.

Tula has been the subject of archaeological research since at least the 1880s, when French explorer Désiré Charnay conducted excavations and, using historical and mythical accounts more than archaeology, identified the site as the Toltec capital. Charnay also explored Chichen Itza and was the first to draw attention to the similarities between the two cities. The modern era of Toltec archaeology really began in 1940, when Mexico's Instituto Nacional de Antropología e Historia (INAH) undertook more than a decade of research under the direction of Jorge Acosta, and fieldwork has continued intermittently to the present.

The earliest settlement near Tula dates back to the first millennium B.C., beneath the modern town of Tula de Allende. When Teotihuacan dominated Central Mexico before its fall around A.D. 600, there were several political centers in the vicinity of Tula, all probably subordinate to Teotihuacan. As Teotihuacan's power diminished, however, formerly subordinate centers around Mexico flourished in the newly opened political and economic space.

The first monumental center at Tula appeared around A.D. 650 in the form of an architectural complex called Tula Chico, located on the northern edge of a plateau overlooking the Tula River and surrounding valley. For unknown reasons Tula Chico was burned and abandoned between A.D. 800 and 850, after which the heart of the city shifted to a new complex, Tula Grande, located on the southern side of the plateau. The dating of this conflagration, like the dating of other phases of occupation at Tula, is based on changes in the styles of ceramics found in sequential building episodes and radiocarbon dates taken from charred building materials. These data from Tula have been refined by comparison with radiocarbon dates and ceramic sequences collected from other sites across Mesoamerica

The growth of Tula Grande was mirrored by the expansion of nearby settlements. Covering some 16 square kilometers (5.4 square miles), the city's population may have peaked at 60,000 people, with an additional 50,000 in the surrounding countryside. We may never know the full extent of Tula's settlement and population though. The adobe block construction of Tula's residential buildings, which included apartment buildings as at Teotihuacan, has not preserved well, and the expansion of the modern Tula de Allende has erased many ancient remains.

In laying out their reborn capital, the city's builders referenced the lost glory of Teotihuacan. Tula Chico was oriented along a north-south axis, but the main axis of Tula Grande was instead angled at 17° east of north in close

emulation of the principal axis at Teotihuacan. The central precinct of Tula Grande is dominated by two pyramids, Pyramids B and C. Although much smaller than the Sun and Moon pyramids at Teotihuacan (Pyramid C is relatively modest 10 meters/33 feet high), the arrangement of the two structures at Tula along the site's principal axis, the placement of a platform (*adosado*) abutting the front of Pyramid C, and a small central shrine (*adoratorio*) all recall in smaller scale the layout of the Avenue of the Dead at Teotihuacan. However, an I-shaped ballcourt on the northwestern side of the plaza, paired with a *tzompantli*, a skull rack where the heads of sacrificial offerings and captured warriors were displayed, recalls not ancient Teotihuacan but contemporary Chichen Itza (see Chapter 16).

Pyramid B is remarkable for its reclining "chacmool" altars, ready to receive human hearts or other offerings in the bowls carved into their stomachs. The sides of the pyramid bear bas-reliefs that symbolize the powerful warrior orders of the state interspersed with composite beasts, perhaps a mythic Quetzalcoatl. A grim "Serpent Wall," 40 meters (131 feet) long, runs along the north side of the pyramid, with friezes of serpents consuming skeletal humans. The imagery at Tula has a strong emphasis on martial themes, and an altar near a ball court was still covered with fragmentary human skulls when excavated in modern times.

Pyramids B and C face onto a principal patio surrounded by colonnaded halls, with hundreds of square columns that supported perishable roofs. Remains of painted and carved friezes have been found in many of the buildings. Though some of this art was burned and broken during the abandonment of the city, much was also carried off by the Aztecs who trenched Tula in the hunt for objects of veneration. The colonnaded halls expose their outer rooms to view from the plaza, suggesting areas for public ritual and processions. More restricted interior spaces were likely used for rituals by the city's ruling class.

Most famous among the sculptures of Tula are the Atlanteans atop Pyramid B. These basalt columns once supported a perishable roof and each depicts an imposing 4.6-meter (15-feet) tall male warriors adorned in battle finery with shields and spear throwers (Figure 17.7). Four other fragmentary Atlanteans, found out of their original contexts, likely come from Pyramid C. Other columns atop Pyramid B show individualized warriors and may be portraits of Tula's kings. Each figure exhibits distinct attributes associated in later periods with the Aztec gods Tlaloc, Quetzalcoatl, and Tezcatlipoca,

deities associated with abundance, rulership, and warfare. Low relief sculptures on Pyramid B also depict the god known to the Aztecs as Tlahuizcalpantecuhtli, an aspect of Quetzalcoatl as the planet Venus associated with warfare. The art of the whole complex thus emphasizes might and kingship.

FIGURE 17.7 Colossal warriors, atlatls (dart-throwers) held at their sides, atop Pyramid B at Tula. Andrew Scherer.

We know little of the city itself, of its palaces and domestic architecture. Tula appears to have been organized into formal wards of households, each about 600 meters (1,970 feet) square. Inside lay flat-roofed, square or rectangular houses clustered in groups of as many as five dwellings, which shared a common shrine. Many of these households were engaged in obsidian mining and tool manufacture, much of it for export.

The artistic and architectural similarities between Tula and the Maya City of Chichen Itza have been the subject of debate since the pioneering work of Charnay. Chacmool figures, friezes depicting animals consuming hearts, skull racks and feathered serpent imagery found at both sites once seemed to point to a Toltec expansion from Tula to the Yucatan peninsula. There is also an obvious resemblance between Temple B and the Temple of the Warriors at Chichen, with their warrior columns atop broad pyramids and surrounding colonnaded vestibules.

Now, however, revised dating of architecture using radiocarbon dates and ceramic sequences at both sites suggests that supposedly Toltec features appeared earlier at Chichen Itza. The simplest explanation is that the two cities were participants in widespread religious and economic networks that spanned Mesoamerica. What was once thought of as Toltec imagery appears at sites across Mesoamerica beginning around A.D. 800, associated in many places with depictions of merchants and deities associated with travel and trade. Further support for the notion of widespread economic links comes from the movement of trade goods including pottery, jade, turquoise, cacao, and metals across Mesoamerica and down into Central America, while the obsidian found at Tula and Chichen Itza came largely from the same two sources. Cloth and salt were also produced at Tula and must have been important trade items.

Tula’s monumental center was permanently abandoned around A.D. 1150, when its buildings were burned and its sculptures thrown down. An invasion offers a likely explanation for the evident destruction, but there is no abundance of foreign artifacts or evidence of subsequent settlement to suggest an occupation of the city. Aztec accounts attribute Tula’s fall to the exile of its king, the culture hero Ce Acatl Topiltzin. Ce Acatl Topiltzin is often conflated with the deity Quetzalcoatl, and in Aztec accounts the bearded Topiltzin Quetzalcoatl fled Tula and traveled eastward. Such tales were once thought to substantiate the Toltec influence at Chichen Itza, which lies east of Tula on the Yucatan peninsula. Stories of his predicted return

from eastern exile were also used in the decades following the fall of Tenochtitlan in 1521 to retroactively frame the bearded Spaniard Hernan Cortés as the Toltec hero reborn. As the Toltec state fell apart its people migrated out to other parts of the Valley of Mexico and beyond, with subsequent generations of leaders claiming descent from the ruling families of the once-great capital Tula. In the aftermath of Tula's collapse many regional states vied for control of the territory and resources of Central Mexico, but it was not until two centuries later with the emergence of the Aztec Triple Alliance that the region would be politically unified.

THE RISE OF AZTEC CIVILIZATION (A.D. 1200–1519)

In the century following the decline of Tula, a political vacuum existed in the valley of Mexico, where a series of moderate-sized city-states prospered and competed. Powerful lords claiming Toltec ancestry became the leaders of these kingdoms, establishing the precedent that only those of Toltec descent could assume the throne. These competing kingdoms would give rise to the Aztec Empire. The term "Aztec" is often used for the culture and people of an expansive state ruled from central Mexico from the late fourteenth through early sixteenth centuries A.D. Nahuatl-speaking ethnic groups including peoples who identified themselves as Acolhua, Tepanec, Chalca, and Mexica recalled their origin as Chichimecs—uncouth desert peoples from the north who lacked the culture of urban dwellers in Central Mexico. These groups claimed to have come to the Basin of Mexico after a journey from a place called Aztlan, an island on a lake far to the northwest. These migrant peoples as a whole might be thought of as Aztecs, though it is not a term that would have been used as such by the Mexica, who would eventually dominate the empire.

Nahuatl speakers arrived in central Mexico in several waves, adapting and adopting religious and political practices from different ethno-linguistic groups long-established in Central Mexico.

The groups who traced their origin to Aztlan were certainly present in the Basin of Mexico by A.D. 1200. Some scholars argue that the rulers of Tula were also Nahuatl speakers before the tenth century A.D., and that Nahuatl speakers were present even earlier at Teotihuacan though proof of such linguistic affiliations eludes us.

Among the last to arrive were the Mexica, guided by their patron deity, Huitzilopochtli. Around A.D. 1325, on the run from more powerful neighbors, the Mexica settled on a cluster of small islands in Lake Texcoco, a saline lake at the heart of the Basin of Mexico. There they established the neighboring towns of Tenochtitlan and Tlatelolco. At first, the Mexica did not even have a *tlatoani* (Nahuatl for king; literally "one who speaks") and became mercenaries subservient to the Lord Tezozomoc of the expanding Tepanec kingdom in 1367.

The Aztecs shared in the spoils of the expanding Tepanec domains, and were given authority over conquered city-states. After Tezozomoc's death in 1426, the Aztec ruler Itzcoatl and his exceptionally able adviser, Tlacaelel, joined with the rulers of the cities of Tlacopan (modern Tacuba in Mexico City) and Texcoco to crush the Tepanec dominance.What emerged was a new political order: the "Triple Alliance" of Tlacopan, Texcoco, and Tenochtitlan.While they were nominally equal partners, the Mexica of Tenochtitlan would quickly come to dominate this triumvirate of city-states. Little more than a century after the founding of Tenochtitlan the disenfranchised Mexica their king was the *huetlatoani*, the Great Ruler, of the rapidly expanding Aztec Empire, the largest state to ever take shape in Mesoamerica.

Tenochtitlan became the center of a far-ranging commercial and political network, enforcing through military power what it could not accomplish through diplomatic or economic means. A series of brilliant and ruthless leaders embarked on aggressive campaigns of conquest, determined to fulfill Aztec destiny. The greatest Aztec ruler was Ahuitzotl (1486–1502), the sixth tlatoani. His armies marched far beyond the valley, spreading even to the borders of Guatemala, with a yet more far-flung trade network. The Aztec Empire covered both highlands and lowlands and affected the lives of over five million people. A brilliant strategist and an able administrator, he was also a devout worshipper of his people's deities and 20,000 prisoners are said to have perished in 1487 when Ahuitzotl inaugurated the rebuilt "Templo Mayor" or Great Temple.Yet, despite its dominance—and like the Inka domain of Andean South America (see Chapter 18)—the Aztec state was at the height of its power when the empire fell to the Spanish Conquistadors and their indigenous allies in 1521, marking the end of Tenochititlan and the beginnings of Mexico City.

TENOCHTITLÁN (A.D. 1487–1519)

> *And when we saw all those towns and villages built in the water, and other great towns on dry land, and that straight and level causeway leading to Mexico, we were astounded. These great towns . . . and buildings rising from the water, all made of stone, seemed like an enchanted vision. . . . Indeed some of our soldiers asked whether it was not all a dream.*
>
> (Diaz 1963, p. 214)

Thus did Bernal Diaz, one of Hernán Cortés's followers, describe his first sight in 1519 of the Aztec capital, Tenochtitlán. Diaz wrote his vivid account of the Spanish conquest of Mexico fifty years later, when he was in his seventies. But his descriptions of Tenochtitlán read as if he had walked through the plaza the day before. It is this immediacy that makes Aztec civilization virtually unique among early preindustrial states, for we have eyewitness accounts of it in its heyday from both Spanish and Nahuatl language documents. Cortés and his companions marveled at a city larger than the great Spanish port of Seville, and certainly better planned than many European capitals of the day. Tenochtitlán was a sophisticated, cosmopolitan city with a social, political, and economic organization flexible enough to integrate large numbers of outsiders—merchants, pilgrims, foreigners, and thousands of laborers—into its already large permanent population.

Tenochtitlan (together with its smaller twin, the market hub of Tlatelolco) sat in Lake Texcoco, the largest of a chain of five shallow lakes that once occupied the land beneath Mexico City (Figure 17.8). The northern three lakes, including Texcoco, were brackish. The southern lakes Chalco and Xochimilco were fresh.Tenochtitlan was crisscrossed by canals that were plied by canoes, and the Conquistadors, taken by the beauty of the city, compared it favorably to Venice. Causeways to the north, south, and west connected the island to the shore. These causeways also had canals cut across them, spanned by bridges that could be removed in times of war to defend the city.When the Spanish were initially driven from Tenochtitlan in 1520, they had to leap these divides on horseback and many of those on foot were killed or captured in the attempt.

FIGURE 17.8 An artist's impression of the central precincts of

Tenochtitlán and the Valley of Mexico. DEA Picture Library/De Agostini/Getty Images.

Although natural islands underlay the foundations of Tenochtitlan and Tlateloco, they were too small to hold the growing population of the cities. The islands were expanded with landfill to create additional living space and gardens known as *chinampas*.Sometimes mistakenly called “floating gardens,” chinampas are raised beds created by staking out a rectangular area, which is then filled with lake sediment and vegetation to create a nutrient-rich surface upon which fruits, vegetables, flowers, and trees can be grown in abundance. The saline Lake Texcoco also provided important foodstuffs, including fish, water fowl, and blue-green algae called spirulina that was sold in cakes in city markets.

As the cities grew, Tenochtitlan and Tlateloco essentially merged into one urban space, and in 1473, Tenochtitlan annexed Tlateloco. By 1519, at the height of the empire, the population in Tenochtitlan and Tlateloco had grown to 200,000 people, squeezed into 13.5 square kilometers (5.2 square miles).By comparison, Tenochtitlan’s major partner in the Triple Alliance,

Texcoco, probably had a population in the range of 24,000 people, and other cities were smaller. The population of the Basin of Mexico as a whole has been estimated at one million people in 1519, having grown from 200,000 people 300 years earlier when the migrants from Aztlan had arrived.Feeding such populations was a perpetual challenge, one threatened on several occasions by floods and droughts that destroyed crops, and vast quantities of food were imported to the city's market and collected as taxes.

To keep the salty waters of Lake Texcoco from occasionally flooding the city and poisoning chinampas, the Mexica ruler Motecuhzoma Ilhuicamina (Motecuhzoma "The Elder") had his cousin Nezahualcoyotl, king of Texcoco, design a barrier—"The Dike of Nezahualcoyotl"—that ran for about 14.5 kilometers (9 miles) north to south, cutting off Lake Texcoco from Lakes Chalco and Xochimilco. Aqueducts brought fresh drinking water into the city from the hill of Chapultepec (today the major park in Mexico City). These systems of water management were feats of engineering that the later Spanish rulers of Mexico could not equal. Unable to safely control the rise and fall of flood waters, the Spanish decided to simply drain the lakes entirely. Today, little remains of freshwater Lake Xochimilco in the southern fringes of Mexico City, but chinampas and canals can still be found providing produce and flowers to the city. Of salty Lake Texcoco, only a remnant reservoir to the east of the city persists.

Political organization in the Aztec world was capped by the *altepetl* (plural: *altepeme*), which literally means water-mountain. Each altepetl—like Tenochtitlan, Tlatelolco, Texcoco, or Tlacopan—was technically a separate city-state with its own tlatoani, though as the empire expanded lesser altepeme and their rulers became subservient to the great rulers of the Triple Alliance.Daily life in Tenochtitlan was centered on the *calpulli* (plural: *calputin*).Sometimes translated as "great house," a *calpulli* was a neighborhood composed of broadly related kin groups, with its own deities, shrines, and lords. The calpulli underlay much of the organization of the altepetl, and was responsible for managing jointly held agricultural lands as well as for paying taxes, fulfilling ritual obligations, raising soldiers in time of war, and other political functions.

The homes, palaces, and temples of Tenochtitlan were systematically dismantled by Spanish colonial authorities, and Mexico City has since grown over much of the Basin of Mexico. Most of what we know archaeologically of Aztec political and home life therefore comes from the excavation of sites

outside the basin that have not been so thoroughly impacted by modern development.Within Mexico City, archaeologists must typically take advantage of research opportunities arising out of construction or demolition efforts that incidentally expose Pre-Colonial remains. Nowhere has excavation been as focused and long-running as in the precinct of the “Templo Mayor” or Great Temple at the center of Tenochtitlan. The precinct of the Great Temple long lay buried beneath colonial architecture adjacent to the Mexico City’s Zocalo (the main square) and Cathedral.Workers renovating the cathedral in 1790 discovered the so-called Sun-Stone or Calendar Stone, a massive sculpture 3.6 centimeters (11.75 feet) in diameter.Yet it was not until 1978, when electrical workers digging near the cathedral uncovered a massive monument depicting the star goddess (and sister of Huitzilopochtli) Coyolxauhqui at the base of the Great Temple that research began in earnest, under the leadership of archaeologist Eduardo Matos Moctezuma.

Tenochtitlán was the symbolic center of the universe, a city set in a circle of water, a replica of mythic Aztlan itself. The Great Temple was the religious heart of Tenochtitlan, and therefore of the empire. It faced west, a human-made mountain emulating the volcanoes that ring the valley. At its maximum in 1519, the pyramid stood 30.7 meters (101 feet) high, and measured 83.5 × 76 meters (274 × 249 feet) at its base. It loomed over a plaza 500 meters (1741 feet) on each side—large enough to accommodate nearly 10,000 people during major public ceremonies—from which roads ran out along the cardinal directions dividing the city up into quarters. The city was thus a quincunx, a symbol of power and authority since at least the Formative period (2000 B.C.–A.D. 250) that divided the cosmos into four directions and a center point.Twin staircases once led to the top of the pyramid, which held two shrines.On the right was a red temple dedicated to the Mexica’s patron deity Huitzilopochtli, while on the left a blue-painted temple honored Tlaloc, a god of rain and warfare long worshipped in one form or another throughout much of Mesoamerica. At the foot of the pyramid was the enormous altar showing the dismembered goddess Coyolxāuhqui, who Huitzilopochtli had killed and thrown down a sacred mountain when she attempted to kill him.

Matos found many remains of the pyramid and its surrounding ritual landscape were remarkably well preserved despite the centuries of construction that overlay them. The pyramid was built in at least seven phases, each new construction encased the previous building like the layers

of an onion. The first structure was little more than an earthen platform, the second masonry structure dates to about A.D. 1390 and was uncovered largely intact, with many details of the temple precinct intact (Figure 17.9).This and later versions were painted in brilliant colors. The occasion of each renovation was a celebration of the renewal of the city and the political-ritual order of the world. Lavish ritual offerings were deposited atop the old building prior to its burial, including revered objects retrieved from Tula and Teotihuacan.Excavators also uncovered sacrifices to the deities, including a stone-lined pit containing the dismembered bodies of thirty-eight children sacrificed to Tlaloc. Beyond the Great Temple, the ritual center was also filled with meeting halls, housing, and temples to other deities, a ball court, and a tzompantliskull rack that held thousands of crania from human and animal sacrifices suspended from wooden posts. In 2015, Mexican archaeologists excavated the remains of two towers of skulls mortared together, measuring no less than 5 meters (16.4 feet) in diameter and 1.7 meters (5.58 feet) high, that flanked the skull rack.Researchers estimate the tzompantli displayed thousands of skulls at once—a potent, visceral symbol of the ritual power and military authority of the Mexica.

FIGURE 17.9 The excavated Templo Mayor in the heart of Mexico City, showing multiple construction layers of the staircases that once fronted the great pyramid. Werner Forman/Universal Images Group/Getty Images.

Among the most spectacular recent finds near the Great Temple is an enormous carved and painted stone slab buried in front of the pyramid, excavated by a team under the direction of Leonardo López Lujan. Measuring 4.17 × 3.62 meters (13.7 × 11.9 feet), and weighing 12 metric tons (13.23 standard tons), the monument depicts Tlaltecuhtli, a deity with male and female aspects who was both a creative and destructive force. Beneath the monolith were lavish offerings, whose contents were well preserved by the water-logged soil.Among the many thousands of objects represented were seeds, skeletons, and shells exemplifying all the diversity of land and sea—shells, jaguars, wolfs, cotton, maguey, corals, lobsters, eagles, sharks, sawfish, sea cucumbers, and much more. The offerings represented the Aztec universe in miniature, enriched by the addition of wooden masks and scepters, chert knives, greenstone jewels, and gold-work.

The greatest festivals of the Aztec world unfolded at the great pyramid and its precincts. Dancers in feathered costumes moved to the rhythm of trumpets and drums, in beautiful processions and ceremonies whose passing was bemoaned by the city’s people in the aftermath of the Spanish conquest. Animal and human sacrifice, too, played an important role in Aztec ritual life.

In one version of such practices, brightly dressed prisoners climbed the steep stairways of the pyramid, where they were stretched out over the sacrificial stones placed in front of the temples. In seconds, a priest with a chert knife broke open his chest and ripped out his still beating heart. The corpse was rolled down the steep pyramid, and dismembered the body setting the skull on the tzompantli nearby (see Box 17.2).

Box 17.2 Discoveries *Aztec Human Sacrifice*

Archaeology has provided solid data to bolster the historical accounts of Aztec human sacrifice. Spanish participants in the conquest of Tenochtitlan, and priests who sought converts to Christianity in decades following, were adamant in their condemnation of Aztec human sacrifice. They described such practices as barbaric and demonic, despite the ravages of the ongoing Inquisition in Spain, and the frequent willingness of Conquistadors to brutally kill indigenous people on the battlefield or off. Chroniclers describe tens of thousands of victims offered up to the gods in the temples of Tenochtitlan, but without archaeological data it has proven hard to substantiate the claims.

The discovery in recent decades of thousands of bones, constituting many dozen whole and partial skeletons, in Tenochtitlan, its sister-city of Tlateloco, and other outlying altepeme has confirmed some of the descriptions. The skeletons, many of which are incomplete, show evidence of burning, skull fractures, and cut marks indicative of decapitation and flaying—the removal of the skin. The bodies are those of men, women, and children of all ages. According to the accounts of the Mexica themselves, such sacrifices were intended to feed or offer helpers to the gods, and to repay an eternal debt of blood and life owed to the gods who had sacrificed of themselves to bring life to the world.

Sacrifice not only renewed the god to whom it was offered but also provided an ultimate test of manhood for the victims. Of particular interest for sacrifices were captives taken on the battlefield, whose valor —and the valor of the warriors who risked all to take these prisoners— nourished the gods. Thus, the celebrated “Flowery Death,” in which a prisoner of war went to his death painted and dressed in the god’s regalia so that he or she became a symbolic god. Elaborate rituals

surrounded the more important sacrifices. The flawless young man chosen to impersonate the war god, Tezcatlipoca, assumed the role of the god for a full year. He wore divine regalia and played the flute. A month before his death, he was married to four young priestesses, who impersonated goddesses and sang and danced with him as he walked around the capital. On the day of sacrifice, the young man climbed alone to the sacrificial stone. On occasions like these, human sacrifice was not an earthly but a divine drama (Figure 17.10). Human sacrifice was also impactful because of the fearsome spectacle, and served the empire as an unpleasant tax placed on tributary states that provided victims in payment, and was a powerful threat to keep subject peoples and enemies in line. No one knows how many sacrificial victims perished each year, for it is impossible to develop accurate counts. As many as 800 victims may have died at major festivals in Tenochtitlán. In truth, the prestige of the victim was probably more important than sheer numbers.

FIGURE 17.10 A priest offers a human heart to the patron deity of the Mexica, Huitzilopochtli. World History Archive/Alamy Stock Photo.

The Spanish Conquistadors claimed to be horrified by the shrines of Huitzilopochtli and Tlaloc, which reeked from the blood of sacrifices. The disgust of the Spaniards, who were themselves guilty of myriad atrocities and massacres against native peoples, may have stemmed less from squeamishness than from religious opposition to non-Christian practices, and the fact that they saw their compatriots (along with their horses) sacrificed in the conflicts that led to the fall of Tenochtitlan. Claims of Aztec cannibalism, including accounts that the emperor dined on countless dishes of human flesh, can only be partly substantiated archaeologically, and were likely exaggerated out of fear, ignorance, and a concerted effort to demonize indigenous cultural practices. Rather than a regular part of the Aztec diet, human flesh—and particularly that of vanquished enemies—was likely consumed in small amounts on ritual occasions, perhaps as an act of spiritual renewal.

Despite the importance of such spectacular finds around the Templo Mayor, balancing the needs to preserve the more recent and Pre-Colonial past of the city will always be a serious challenge. Excavations around the Great Temple have involved the removal of historically significant buildings that sat atop the Aztec ruins, although many of these were already seriously damaged by earthquakes and slated for demolition. The difficulty of balancing conservation and progress is true in all big cities, but in places like Mexico, Athens, Rome, and others that hide the remains of ancient civilizations the situation is even more charged. Not everything can be preserved. Digging through the remains of centuries of construction, why focus on and conserve only Aztec era remains? Should archaeologists and civil authorities not preserve buildings from more recent centuries? Such issues are unavoidable in urban archaeology, and lacking any "right" answer. The public, archaeologists, and government must collaborate and compromise to minimize the loss of irreplaceable human history.

The World of the Fifth Sun

For the Aztecs every deed, every moment of living, was filled with symbolic meaning and governed by ritual. They inherited a cyclical view of time, established by the movements of the heavenly bodies, which had lain at the core of Mesoamerican civilization for millennia. Their 365-day secular calendar measured the passing of seasons and market days. A ritual calendar on a 260-day cycle consisted of 20 "weeks" of 13 days each. Each week and each day had a patron deity, all of them with specific good and evil qualities. Once every 52 years, the two calendars coincided, a moment at which time was thought to expire. Houses were cleaned, and every hearth in the basin of Mexico was extinguished until a new fire was rekindled by priests who lit a sacred flame in a sacrificial victim's chest atop a hill on the eastern shores of Lake Texcoco. Then a new cycle began amid general rejoicing.

Aztec creation legends spoke of four suns that preceded their own world, that of the Fifth Sun, a cycle immortalized on the famed Aztec "Calendar Stone." A cataclysmic flood destroyed the world of the Fourth Sun. Primordial waters covered the earth. The gods gathered at the sacred city, Teotihuacán, where they took counsel. Two gods were chosen to represent the sun and moon. They did penance for four days, then immolated themselves in a great fire in the presence of the other gods. They emerged as

the sun and moon, blown on their cyclical courses by the wind god, Ehecatl. Thus was born the world of the Fifth Sun, but a world doomed to inevitable, cyclical extinction. A strong sense of fatalism underlay Aztec existence, but the people believed they could ensure the continuity of life by nourishing the sun and repaying their debts to the gods with blood and sacrifice. This was why human sacrifice was so prevalent in Mesoamerican society—it was a means of returning food and energy from living people to the earth, the sky, and the waters.

The Aztec State

The Aztec Empire was far from a monolithic and highly centralized state. It was a mosaic of ever-changing alliances, cemented together by an elaborate tribute-gathering machine. By the end of the fifteenth century the Triple Alliance had expanded its control over large swaths of central Mexico through conquest, trade, and exchange.Each altepetl had its own market, none more important that of Tlateloco, where more than 20,000 people shopped daily. These markets provided access to food, slaves, textiles, pottery, and much more.Prices were standardized and judges adjudicated trade disputes. Cacao beans (from which chocolate beverages were made), cotton capes, shells, gold dust, greenstone beads, bronze axes, and bronze bells were among the currencies used. In fact, cacao was so valuable as a currency that it was frequently counterfeited by unscrupulous vendors.To keep such markets supplied, long-distance traders known as *pochteca* brought luxuries like jade, feathers, and cacao from as far as the Pacific coast of Chiapas and Guatemala, and turquoise from what is today the southwestern United States.When expeditions took the pochteca outside the borders of the empire, they also acted as spies for the Mexica rulers.If potential partners refused to trade under peaceable accords, Aztec warriors might follow to open trade by force.

Box 17.3 Voices *The Empire and The Spanish Conquest through Aztec Eyes*

Much of what we know about Tenochtitlan and the details of Aztec society, economy, and statecraft come to us from historical data. Aztec

scribes had a rich tradition of writing, with histories, religious texts, and bureaucratic records painted on fig-bark paper called amatl. Like earlier writing at Teotihuacan and Tula, Aztec writing was highly pictographic. An image of a jaguar pelt indicates a jaguar pelt, feathers indicate feathers. However, these pictograms were often complemented by glyphic numbers, dates on the ritual calendar, personal names and place names that might also contain syllables. Thus, a human figure in such a text might appear to be a rather generic nobleman, but accompanying glyphs might provide his name and birthday. Tax rolls might show the wealth flowing into the capital from a province depicted as jade beads, with precise counts of the tax levied, and a place glyph indicating the name of the tributary city. The Mexica and their neighbors also had a great love of poetry, and many poems attributed to Nezalhualcoyotl of Texoco survive to this day. Spanish officials and priests took advantage of this tradition of literacy and trained indigenous scribes to write in Latin script to better facilitate imperial bureaucracy, taxation, and conversion to Catholicism.

Fray Bernardino de Sahagun (c. 1499–1590) was a Franciscan friar who arrived in Mexico in 1529, less than a decade after the fall of Tenochtitlán. Sahagun soon learned the Aztec lingua franca, Nahuatl, then busied himself studying traditional Indian society as a means of combating what the friars called “idolatry.” Fortunately, Sahagun realized that Aztec history was still walking around, although vanishing rapidly as many of the older generation died without passing on their cherished traditions. He began by enlisting the help of prominent Aztec elders, some of them merchants, and used young Spanish-speaking Indians as interpreters. For days on end, Sahagun conversed with his informants, recording formal orations and other discourses from earlier times.

Sahagun’s informants presented him with hidden codices, taking the friar back to the vanishing world of their ancestors, and recited half-forgotten orations that spoke of early Aztec history; of the pantheon of gods and goddesses; of philosophy, poetry, and the universe. Aztec script was used mainly for record-keeping, especially of the vast quantities of tax that flowed into the capital from all corners of the Mesoamerican world. But it also served as a prompt for formal orations. Not content with codices and orations alone, Sahagun prepared

questionnaires about the characteristics of gods and other matters, using techniques remarkably like those of modern anthropologists and ethnohistorians.

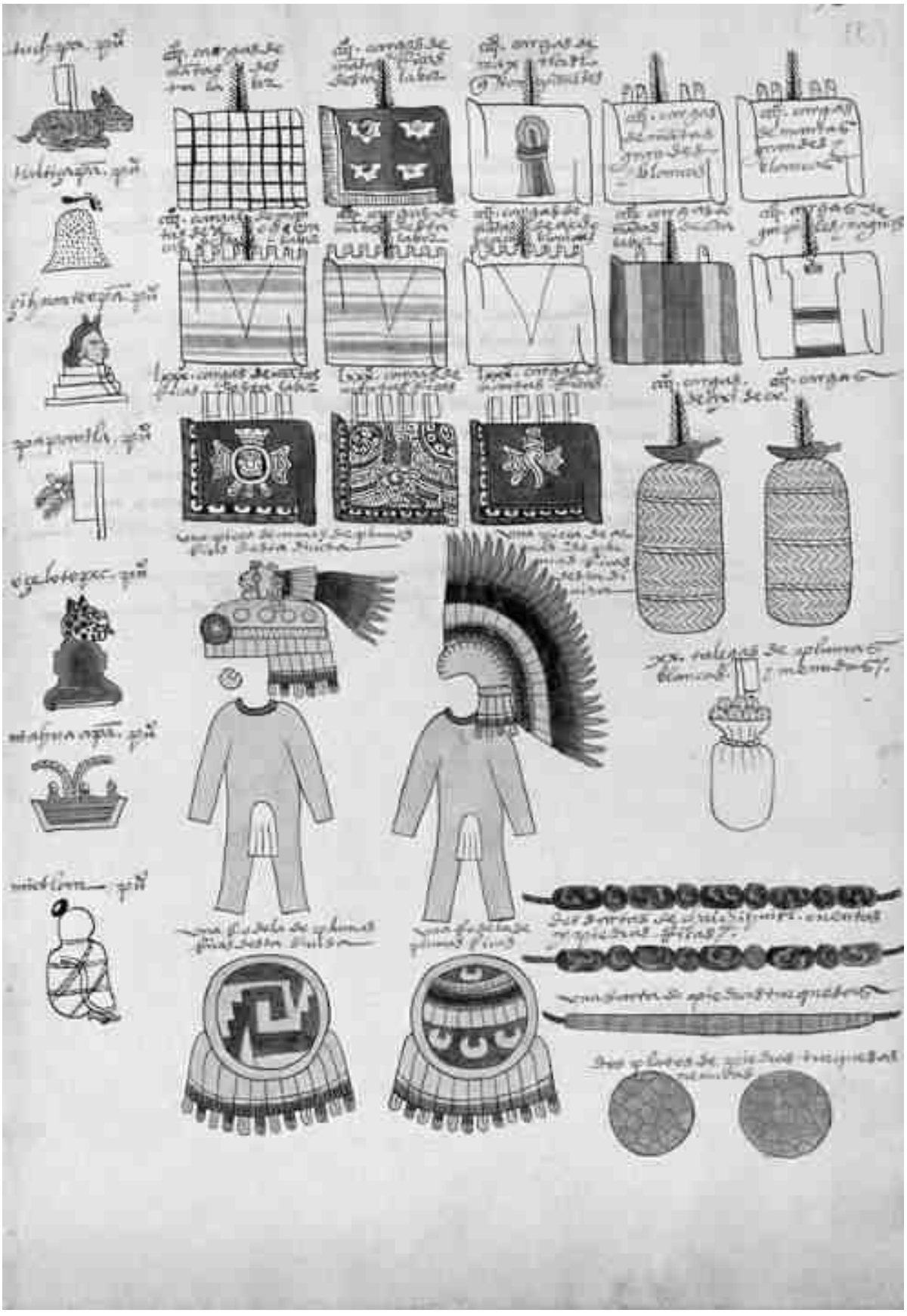
Between 1547 and 1569, Sahagun compiled his master work, *General History of the Things of New Spain*, a twelve-volume compendium of Aztec civilization. This remarkable work encompasses the "gods worshiped by the natives" and rituals, sacrifices, and cosmology. Sahagun's work presents astronomy and theology, natural history, and Aztec history and philosophy. The final volume describes the Spanish conquest as interpreted through Aztec eyes in the decades after the fall of Tenochtitlan. Sahagun's informants tell of strange portents, of the arrival of white strangers in mountains moving on the sea. It is in these accounts that Motecuhzoma fares poorly—wavering in the face of the inexorable advance of Cortés and his men. His ambassadors greeted Cortés and attempt to dress him in the finery associated with a god. They "put him into the turquoise serpent mask with which went the quetzal feather head fan. . . . And they put the necklace on him" (Dibble and Anderson 1975, p. 168). Cortés responded by firing canons, offering them European swords, and challenging them to a fight. The puzzled ambassadors fled back to Motecuhzoma, who caused two prisoners to be sacrificed in their presence for "they had gone to see, to look into the faces, the heads of the gods—had verily spoken to them" (Dibble and Anderson 1975, p. 165).

Bernardino de Sahagun's masterpiece was considered potential heresy by the Catholic authorities, who forbade its publication and buried the manuscript in church archives, where it remained until scholars discovered the *General History* in the nineteenth century. Today, Sahagun's work is of such seminal importance that an entire academic literature surrounds his writings. This and other writing in Nahuatl from the immediate aftermath of Tenochtitlan's fall give us glimpses at this great civilization from authors who had lived through its apogee and fall.

Documents painted and written in Spanish and Nahuatl by Aztec nobles during the sixteenth century provide unparalleled insight into nearly every aspect of indigenous conceptions and organization of society, religion,

science, and nature (see Box 17.3). From such documents we know that laws banning public drunkenness, adultery, theft, murder, and much more were strictly enforced and often punishable by death. But the accused could contest the charges in a robust system of courts that offered appeals for guilty verdicts. We also know that Aztec society was hierarchically organized around social class, with rulers and nobles elevated above a broader group of commoners, with sumptuary laws regulating what members of each class could wear in public, covering everything from ornaments to cape and sandal styles, regulations designed to restrict the size of the nobility (Figure 17.11). Commoners could achieve elevated status, however, through service on the battlefield or as members of the pochteca guild of traders. At the bottom of the social pyramid were enslaved commoners, disembedded from their social networks and sold in the marketplace.

FIGURE 17.11 An inventory of taxes paid by cities (named in column at left) in the Aztec Empire. The levied items noted here include finely woven clothes, warrior uniforms and shields, tropical bird feathers, beads, and turquoise mosaics. From the Codex Mendoza, Bodleian Library, Oxford. De Agostini/Getty Images.



As the empire expanded, conquered city-states were not dissolved. Instead, local government was left largely in place and the local tlatoani left in charge so long as taxes were paid to the Triple Alliance. Despite some frequent commonalities such as the calpulli and altepetl among Nahuatl communities, the economic and political patterns of the empire were highly variable and this was a multi-ethnic, polyglot state. Across the Aztec domain there was diversity in everything from land tenure to craft specialization, patterns of urbanization, and merchants and markets. This intricate social mosaic, only now being revealed by a new generation of archaeological research, lay behind a facade of political and economic uniformity and centralization, and continued well into the early decades of the Spanish colony.

Taxes imposed on the provinces were taken in many forms, for example, as raw materials like gold dust or tropical bird feathers for ceremonial mantles and headdresses. Fine ornaments, even capes, were assessed from communities that specialized in such products (Figure 17.12). Twenty-six cities did nothing but provide firewood for one royal palace alone. Metal artifacts were important tax items, for they were of vital importance in Aztec and earlier Mesoamerican states. Expert smiths made musical instruments, such as bells, and alloyed copper to bring out shimmering gold and silver hues. Color and sound were central parts of Mesoamerican ideology, commemorating the sun and moon and the sounds of rain, thunder, and rattlesnakes, thus helping to bring symbolic order to the world. Since a local ruler was unlikely to lower his or her own demands for wealth, additional taxes were simply levied on commoners to fulfill the requirements of the local palace and imperial tax collectors. Archaeological research on provincial altepeme in the Mexican state of Morelos reveals that agriculture and textile production increased under Aztec rule, while households were impoverished by additional tax burdens when their altepetl was incorporated into the empire.

FIGURE 17.12 Aztec warriors in their finery. From the Codex Mendoza, Bodleian Library, Oxford. DEA Picture Library/De Agostini/Getty Images.

The revolt of conquered regions was a perpetual problem that underscored the fragility of the empire, and there were some regions that the forces of the Triple Alliance were never able to overcome. Aztec armies suffered a humbling defeat in 1478, when tens of thousands of warriors were killed by the forces of the Tarascan Empire of Michoacan.Closer to home, Aztec forces were never able to bring Tlaxcala, just 95 kilometers (59 miles) east of Tenochtitlan, under their control. The nobles of the Triple Alliance told the Spanish that they had allowed the Tlaxcalans their freedom to provide a convenient opponent for "Flowery Wars," ritual battles that provided sacrifices for Aztec temples and a training ground for warriors. The Tlaxcalans, however, were adamant that the Triple Alliance was eager to conquer them, yet they had fought hard defending their well-fortified borders to retain their independence.

THE SPANISH CONQUEST (A.D. 1517–1521)

The story of the Spanish conquest that followed unfolds like a Greek tragedy (see Box 17.3). Spanish ships had been sailing the Caribbean since 1492, and skirting the coast of what is today Mexico since 1517. In 1519, Hernan Cortes led an expedition that landed in what is today Veracruz with a few hundred men, little more than a dozen horses, and several small canons. Cortés was not licensed by the Spanish government to engage in military conquest, and fearing his men would abandon him and return to Cuba he had his ships burned on the coast. Marching inland, Cortés gained allies, when possible turning indigenous dislike of the imperial Aztec state to his advantage. When negotiation did not work Cortés used violence to gain acquiescence. Among the most eager new allies of the Spanish were the Tlaxcalans.

The Aztec ruler, Motecuhzoma Xocoyotzin ("the Younger"; often rendered in English as Montezuma II), cautiously sent emissaries and tried to dissuade the Spanish from entering the valley of Mexico, but to no avail, and the huetlatoani welcomed Cortés and his forces on a causeway leading into Tenochtitlan as fascinated spectators gazed on from canoes on the lake. It is easy in retrospect to view Motecuhzoma's demeanor toward Cortés as weakness or equivocation—and certainly some of his courtiers were eager to do away with the Spaniards. But Motecuhzoma was an able military

commander and well-educated ruler who had to navigate a complex political world. His actions are perhaps better understood as those of someone who, unable to see the future, sought to better understand the Europeans and ascertain what threat or benefit they might offer his empire. It may have reasonably seemed absurd to Motecuhzoma that a relatively few men housed in the heart of his enormous capital city posed a significant threat to the most powerful ruler in Mesoamerica. By the time the real danger became apparent, it was too late and he was beset on one side by his own contentious nobles and on the other by Cortés and his avaricious henchmen.

Cortes and his men soon took advantage of their host and took hold of the king, placing him under house arrest as a human shield against the ever more agitated Aztec nobles and their forces. Motecuhzoma was killed—whether by native or Spanish arms remains in dispute—in the violence and chaos that ensued after the Spanish had massacred Aztec celebrants at a religious ceremony.Even with metal armor, weapons, and firearms the Spanish were outnumbered many hundreds to one and they were driven from Tenochtitlan by Motecuhzoma's successor Cuitlahuac in what is known as the "Noche Triste" (Sad Night), giving the Triple Alliance a brief reprieve.

However, epidemic diseases, particularly smallpox, brought to the Americas by Europeans and enslaved Africans who accompanied them were among the most devastating weapons of conquest. These illnesses ran rampant through native populations that had no resistance to them.Smallpox killed even the huetlatoani Cuitlahuac and weakened the military forces of the Triple Alliance.More important than disease, though, was the political acumen of Cortes, and in the end, the fiercely won independence of the Tlaxcalans proved significant in undoing the Triple Alliance.Since arriving in Mexico Cortes had tempered his bloodshed (so long as battles went in his favor) by offering native rulers an alliance with the Spanish emperor. The often harsh military actions of the Triple Alliance, heavy taxation of its tributary states, and the independent nature of altepetl governance meant that Cortes's offers found fertile ground, and nowhere more so than in Tlaxcala. Thus, while popular history often portrays the conquistadors of Tenochtitlan as a handful of Spaniards, the reality is that tens of thousands of Tlaxcalans and other native warriors made up the bulk of fighters who returned in force to lay siege and capture Tenochtitlan in 1521. The last independent huetlatoani of Tenochtitlan, Cuauhtémoc, was captured and eventually executed by Cortes.

Two years after the arrival of Spanish forces, the greatest city in the Americas lay smoldering and pillaged, its empire collapsed like a deck of cards. “Today all that I then saw is overthrown and destroyed: Nothing is left standing,” wrote Bernal Diaz (1963, p. 214). Spanish authorities soon set about dismantling the pyramids and palaces of Tenochtitlan and building Mexico City atop the ruins. But the city of the Mexica may be having its revenge.As the lakes have been drained and water for the city drawn from the aquifer below, the ground level has dropped by many meters in places, a problem exacerbated by earthquakes that wreak havoc on colonial buildings and modern streets. The Aztec structures push up against the overburden of Spanish construction that has buried them, and emerge in every subway tunnel, every utility ditch that is dug. The ruins of the Great Temple bulge upward beside Mexico City’s cathedral, seeming to strain skyward as if one day the Aztec temples might rise again.

It would be many decades, arguably centuries, before the whole of New Spain was under secure Spanish control. Tens of thousands of people died in bloody encounters, perhaps millions more from exotic diseases like influenza and smallpox, which were introduced by the newcomers. In the center of the colony the Spanish regime quickly replaced Aztec rule with their own in Tenochtitlan, transforming it into Mexico City. But in the initial years following their arrival, with a tiny European population of settlers, the Spanish depended on indigenous rulers and populations to continue working and paying taxes much as they had under the Aztec yoke. Growing colonial settlements and the devastation of native populations by disease led inexorably, and with increasing rapidity through the decades, to the curtailing of the ancient privileges once enjoyed by indigenous nobles and to the replacement of native governance with European statecraft. Trade and communications networks that had developed over millennia fell apart and were restructured to meet Spanish requirements. Indigenous language, culture, and belief systems did not disappear, though. Today millions of people in Mexico speak one or more of sixty-eight recognized indigenous languages including Zapotec (the language of Monte Alban), Nahuatl (that of Tenochtitlan), and the many languages of the Mayan family. Resistance to colonial rule by indigenous peoples continued throughout the colonial period and into the modern era, as Mexico continues to come to terms with the legacy of Cortés.

Summary

Like lowland Mesoamerican civilization, highland states developed from increasingly complex village societies in areas like the valleys of Mexico and Oaxaca during the first millennium B.C. The city of Monte Albán in Oaxaca Valley was in its heyday in the early first millennium A.D., when it was a major religious center and a rival to the dominant highland state of Teotihuacán. The latter grew rapidly, from a small village in 200 B.C. into a vast metropolis with over 150,000 inhabitants. Teotihuacán's rulers designed their city as a symbolic landscape that reflected the place of creation, erecting imposing temples and public buildings. It became increasingly militaristic and the most powerful state in the highlands until its downfall around A.D. 550. Subsequently, the Toltecs achieved dominance until A.D. 1200, when their collapse left a political vacuum in the valley of Mexico. Between 1325 and 1500, the Aztecs forged a vast empire based on their capital at Tenochtitlán, which collapsed in the face of Hernán Cortés, his cohort of Conquistadors, and their indigenous allies in the violent period from 1519 to 1521.

CHAPTER 18

The Foundations of Andean Civilization

FIGURE 18.0 Central portion of a Nasca cotton and camelid wool cloth (radiocarbon dated to 170 B.C.–A.D. 70) showing costumed figures in a ritual procession with severed heads, perhaps part of a ceremony related to water rites (69.8 × 280.7 centimeters; 27 1/2 × 110 1/2 inches). The Cleveland Museum of Art, The Norweb Collection, 1940.530.

The families gather on that cold winter's day, 4,000 years ago. They huddle in their thick capes, greeting fellow kin quietly as they enter the small, one-roomed shrine. Snow is deep on the nearby hills at Huaricoto, but the tightly fitting door keeps out the worst of the cold. The audience looks down on a smoking hearth, located on the higher level of the split-level floor. The shrine is dark, except for the flames, redolent with the scent of wood smoke and

roasted chili peppers. The shaman chants, ingesting the powerful elixir of the hallucinogenic cactus. Mucus flows from his nostrils as he goes into a trance, chanting as his spirit enters the realm of the ancestors. As he chants and cavorts, an assistant interprets the messages from the ancestors, the guardians of life.

CHAPTER OUTLINE

The Andean World: Poles of Civilization
The Preceramic Period (3000–1800/1200 B.C.)
- *The Coast*
- *The Highlands*
- *Domestication of Animals and Plants*
- *Aspero and Caral (3000 B.C.)*

The "Maritime Foundations" Hypothesis
The Initial Period (1500–900 B.C.)
- *The Casma Valley (2150–1200 B.C.)*
- *El Paraíso (1800 B.C.)*
- *Small Kingdoms or Large Chiefdoms?*
- *Highlands: Chavín de Huantar (c. 1500–250 B.C.)*
- *Lake Titicaca Basin: Chiripa and Pukara (1400–100 B.C.)*
- *The Coast: Paracas Culture (c. 800–100 B.C.)*

The Inka called their domains Tawantinsuyu, the "Land of the Four Quarters." In the fifteenth century A.D., their empire extended along the Andes Mountains and across the altiplano (high plains) of the Titicaca basin. Inka roads descended in tortuous zigzags down precipitous foothills into some of the driest landscape on the earth, along the Peruvian coast. Tawantinsuyu straddled the Andean world, bounded on its eastern side by the dense forests of Amazonia and on the west by the bountiful waters of the Pacific (see Table 18.1 and Figure 18.1). Both contributed to the fabric of the great civilizations that had developed centuries before the Inka mastered one of the most diverse landscapes on earth. This chapter and Chapter 18 provide an overview of the origins and development of Andean civilization from its

beginnings over 3,000 years ago until its overthrow by Spaniard Francisco Pizarro and a small band of conquistadors in A.D. 1531.

TABLE 18.1 Chronological table of Andean civilizations

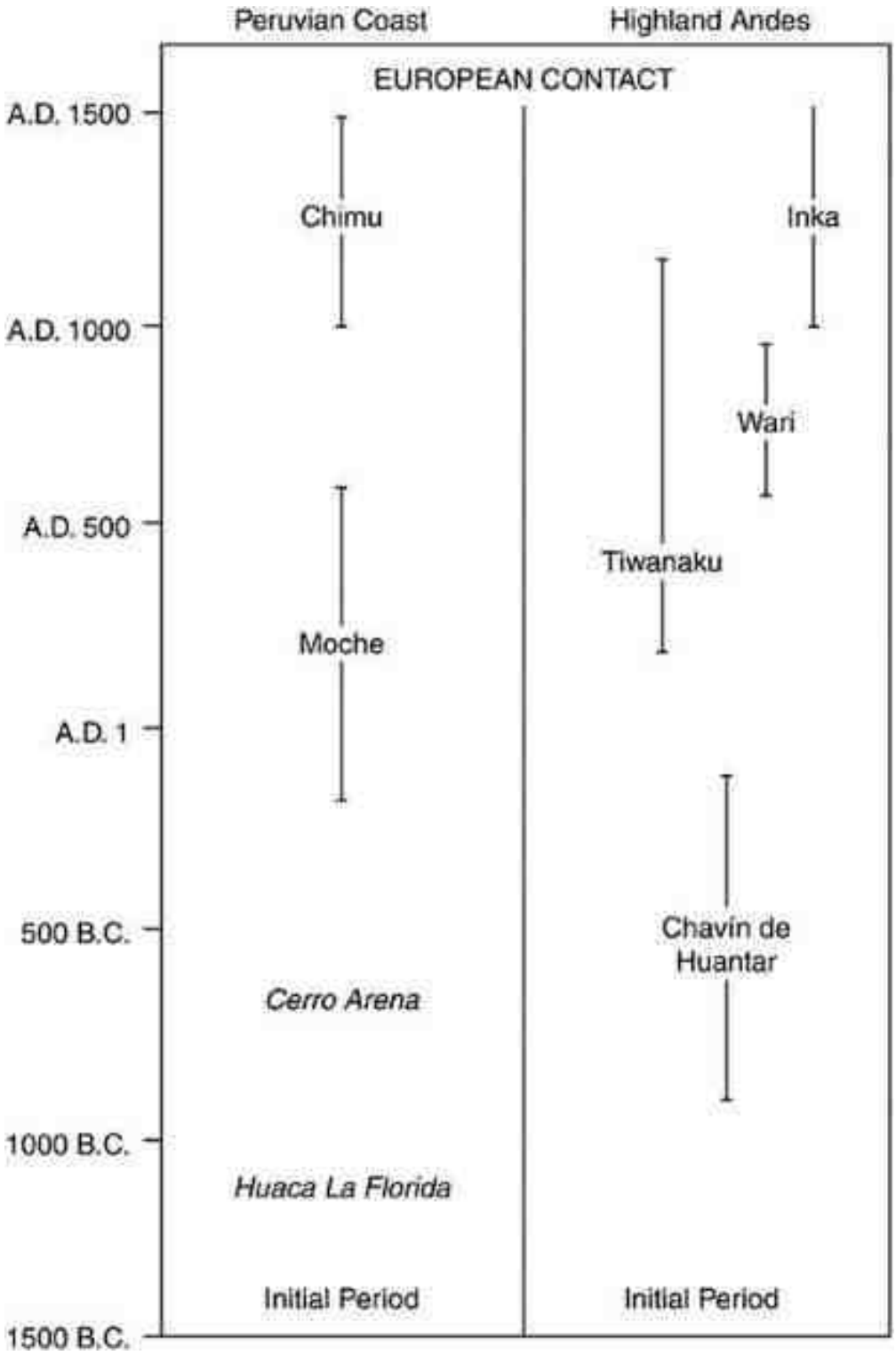


FIGURE 18.1 Map of the Andean region and archaeological sites.

THE ANDEAN WORLD: POLES OF CIVILIZATION

The Andes Mountains form the spine of South America, thrusting up like a wedge between the low, narrow coastal plain of the west and the sprawling tropical lowlands of the Amazon basin to the east. Two great mountain chains, the Eastern and Western Cordillera, form the boundaries of the altiplano in the south, the gap between them forming a valley that broadens toward Lake Titicaca in the south and narrows moving north toward Colombia. Climatic conditions vary greatly from north to south and with altitude, and the mountains themselves are wider and higher in the south and narrower and lower in the far north. The low-lying coastal plains of the west

are warm and very dry, the more mountainous regions, cooler and wetter, but there is enormous local variation. Over many centuries, two “poles” of Andean civilization developed—one in the south-central Andes, the other along the north coast of what is now Peru. Only the Inka succeeded in joining the two into one vast empire. (For the purposes of this book, the terms Andean and Andean region refer to the area covered by the Inka Empire, Tawantinsuyu.)

The southern pole embraces the altiplano and the Lake Titicaca basin, highland Bolivia, and parts of Argentina and northern Chile in the south-central Andes. Much of the altiplano is too dry and cold to sustain dense human populations. The northern end of the Lake Titicaca basin is somewhat warmer and better watered, making both alpaca and llama herding and potato and quinoa agriculture possible. This was where the powerful Tiwanaku state flourished in the first millennium A.D. The puna grasslands of the higher altiplano were used to graze alpaca and llama, the economic exploitation of the plains varying with altitude. The civilizations of the southern highlands traded regularly with the southern coast, bounded in the north by the Ica River and in the south by the Moquegua Valley. The arid plain is narrow, with deeply incised river gorges in the south, widening near the Ica Valley, where small rivers were canalized for irrigation.

In effect, highland Andes valleys were “stacks” of environmental zones, stratified one above the other. The highest elevations allow for alpaca and llama herding, while potatoes and quinoa were grown at slightly lower altitudes. Below them came fields where a much greater variety of crops, including maize and beans, could be cultivated. Farming in the high Andes has always been a struggle against hostile environmental conditions. Ever-growing human populations moved upward and outward into harsher environments. As they did so, they tried to encourage animals and plants living in one zone to adapt to another, to extend their range onto unoccupied land. By seeding beans and cereals and transplanting roots and fruit trees, they struggled constantly to maintain a foothold outside natural floral and faunal ranges. This same struggle began more than 3,000 years ago, resulting in the breeding of dozens of strains of native plants such as potatoes.

The northern pole is centered on the bleak and typically rainless Peruvian desert plain, which extends south nearly 550 kilometers (350 miles) along the coast as far as Collasuyu, reaching a width of up to 100 kilometers (62 miles) in the area of the Lambayeque River. Some forty rivers and streams fueled by

mountain runoff flow across the plain, but they can only be used for irrigation in areas where the surrounding desert is low enough. Four such locations were the most densely settled in ancient times. The two largest were located on the north coast, in the Chicama Moche area and in the Motupe-Lambayeque-Jequetepeque region. Local topography allowed farmers to link their field systems to canals that brought water from several rivers, permitting far higher population densities.

The Peruvian coast forms a series of related microenvironments: rocky outcrops, where shellfish are abundant; areas where wild plant foods nourished by damp fogs are common; and the floors or sides of river valleys. Close offshore, natural upwelling brings phytoplankton from deep water, providing nourishment for great schools of fish. For thousands of years, a combination of these microenvironments provided a rich constellation of food resources. In favored locations, even quite dense hunter-gatherer populations could live in relatively sedentary base camps occupied over many centuries.

The greatest threat to coastal civilizations through all periods are the intermittent El Niño events that pushed warm water close to the Peruvian coast and disrupted the predictable coastal fishery, causing profound changes in Pacific currents that brought unfamiliar fish species and reduced the fisheries to a shadow of their normal selves for several years at a time. El Niño events also deliver violent rainfall to the coast rather than the flanks of the Andes, with the potential to cause catastrophic damage to irrigation systems and the adobe bricks and tamped earth that made the primary building materials in coastal centers.

THE PRECERAMIC PERIOD (3000–1800/1200 B.C.)[1]

The Coast

Fishing and shellfish collecting were important from the moment of first human settlement, as early as 10,000 years ago. After 5000 B.C., however, fishing became more important, while coastal groups intensified their hunting and foraging. The Preceramic period dawned as this process took hold. Some people moved into larger, relatively sedentary communities near the coast. Best known is Paloma on the central coast’s Chilca River, where the

inhabitants relied heavily on fishing, using sophisticated spears and other artifacts to catch deep-water fish from canoes. They also netted millions of anchovies probably from canoes much like those known today as *caballitos de totora* (“little reed horses”) close to the shore. Their crowded settlement of simple, semisubterranean houses and grass-lined storage pits has yielded middens of fishbones and numerous plant species such as tuberous begonias, gourds, squash, and peppers. Paloma, occupied until about 2500 B.C., was less than 4.5 kilometers (3 miles) from the ocean, surrounded by lush patches of edible plants.

Fishing has always provided staple resources along the coast, but long-term population growth did not occur until new, relatively reliable sources of nutrition were developed from more efficient plant gathering and from beans and other species planted deliberately as supplemental foods. Such deliberate manipulation began sometime after 5000 B.C., but early coastal horticulture was never on a large scale until the arrival of maize, and later more intensive irrigation agriculture around 800 B.C.

The Highlands

Somewhat similar cultural developments took hold in the Andean highlands between 2500 and 1500 B.C., when substantial Preceramic settlements flourished in the north-central highlands. Huaricoto, at 2,750 meters (9,000 feet) above sea level, was an important ritual center as early as 2260 B.C. and remained in use for 2,000 years. Detached, one-roomed structures with plastered floors and a central hearth served for private rituals that involved fire and offerings and were attended by only a few people, perhaps kin. Over the centuries, these sanctuaries became rectangular or square chambers with tightly fitting doors and split-level, plastered floors. The higher level served as a bench for the audience, with a recessed, rectangular floor for the central hearth. A clever ventilation system fed air to the fire, while permitting the chamber to be sealed as rituals unfolded.

The Preceramic occupants of Kotosh built two terraced platform mounds surrounded by numerous chambers, a form of architecture that defined the Kotosh Religious Tradition for many centuries. The Temple of the Crossed Hands, the most elaborate chamber, 9 meters (29.5 feet) square, was built of cobbles set in mud mortar. Thick plastered walls held rows of ornamental niches; the wall facing the entrance was adorned with a large central niche

and two smaller ones set to each side, with sets of human hands crossed at the wrists below each of them. Both niches and friezes first appeared in Andean sacred buildings in Preceramic times and endured as symbols of high-status architecture in the Inka Empire. The ceremonial chambers found at Kotosh and other sites formed the core element in an early set of religious beliefs, the Kotosh Religious Tradition, which endured for the next 1,500 years.

The same form of shrine design also appears at La Galgada, where mound construction began before 2200 B.C. The multilayered and oval north mound was faced with fine masonry and fronted by a circular, sunken court. The structures on the La Galgada platforms were made of rounded stones set in mud, plastered and painted white, and ornamented on the inside with wall niches. The log roof was plastered with clay, and a narrow entrance led to the easily sealed interior, with a ventilation system bringing air to the fire on the lower part of the split-level floor. Several such floors yielded white, orange, and green tropical bird feathers and deer antlers. At La Galgada, the shrines sometimes served the living and were then turned into burial vaults, where men, women, and children were deposited. Thus, *huacas* (the Andean term for sacred places that can be anything from a pyramid to a revered boulder) used to invoke spiritual forces became ancestral shrines, foreshadowing an important feature of later Andean civilization. After 1700 B.C., the many shrines on La Galgada's mounds became larger, more integrated structures that could hold as many as fifty people, perhaps marking a shift to more public rituals. Finally, around 1200 B.C., the summit of the largest mound assumed a U-shaped configuration—with three elevated platforms that surrounded a lower central court leading to the front of the tumulus—providing a setting for elaborate rituals that involved even larger audiences. La Galgada's long architectural history documents a long-term trend toward greater political and social complexity in the highlands, marked by great variation between different valleys and regions.

Domestication of Animals and Plants

Intense speculation surrounds the origins of animal and plant domestication in South America, focusing in particular on the vast Amazon rainforest (where root crops may have been tamed) and on the central spine of the Andes (where alpacas, llamas, and guinea pigs were domesticated, as well as a variety of important root and cereal crops). The vicuña and guanaco, native

to the high-altitude puna grasslands of the Andes, are the camelid ancestors of the alpaca and llama. Both are gregarious, social animals, which live in close-knit herds. Specialized hunting of both the wild forebears is well documented at several caves high in the Andes. It would have been relatively easy for human herders to take advantage of the existing social structure of wild herds to manage and manipulate them. Once domesticated, llamas became invaluable pack animals, capable of carrying loads of up to 16 kilograms (35 pounds). Llamas and alpacas are important sources of meat and wool. Studies of the age profiles of camelid bones from the Lake Junin basin of highland Peru show that domestication may have occurred as early as 2500 B.C. Camelid dung within the confines of a wood-posted corral dates to 2000 B.C. in the Asana site southwest of Lake Titicaca.

No later than 9000 B.C. hunter-gatherers were present across Amazonia, and while these chapters focus less on that region it was inseparably connected to developments in the Andes and the Pacific coast. Settled populations, increasingly dependent on domesticated crops, began to develop in the floodplains of the Amazon and its tributaries toward the end of the first millennium B.C. Annual cycles of rains brought rising and falling river levels that seasonally flooded the landscape and provided a wide range of food from domesticated and wild plants, hunting, and fishing. Amazonian farmers have never been uniformly dependent on a single cereal crop like maize, wheat, or rice. Instead, root crops like manioc (cassava) and sweet potato are prominent, complemented by domesticated crops like beans and squash supplemented by tree farming, including palms for food, textiles, and shelter. Located just west of the modern Brazilian city of Manaus, the sites of Açutuba are among the best studied. Several sites are scattered along 3 kilometers of peninsula at the juncture of the Rio Negro and the main stream of the Amazon. Taken together the Açutuba sites cover more than 90 hectares (~222 acres) of habitation and cultural landscape marked by *terras pretas*, dark soil enriched by human contributions of organic remains that continue to shape biodiversity in the Amazon to this day. Radiocarbon dates indicate that significant horticultural settlements began as early as ~3000 B.C., and research on these early Amazonian societies is at the cutting edge of South American archaeology.

Manioc and sweet potatoes were only two of the tubers that were vitally important to the Andeans. Three—oca, mashua, and ullucu—were grown in the highlands. The potato was cultivated throughout the Andes and has

become a major staple around the world in recent centuries. Potatoes were probably first domesticated in the Lake Titicaca region, where the greatest genetic diversity of cultivated forms occurs. Wild potatoes were gathered at least as early as 10,000 B.C. in south central Chile; domesticated forms along with other major Andean root crops were probably developed between 3000 and 2000 B.C., the time when animals were first tamed. The changeover occurred in many valleys and sheltered highland basins, where hunter-gatherers were beginning to intervene in the life cycles of wild plants and increase their food supplies in harsh environments.

The staple cereal crop in South America was maize, which underwent a complex process of domestication. As we saw in Chapter 15, maize was first domesticated in Mesoamerica, perhaps as early as 5000 B.C. From there, it spread into the North American Southwest and into South America, but the date for the introduction into the Andes is still somewhat uncertain. Occasional maize cobs have come from contexts as early as about 4550 B.C., and genetic analyses of maize suggest that when it reached South America it was still in the process of domestication, and was transformed to meet the wide range of environments from the coasts to the highlands and the Amazonian lowlands.

Recently a series of sites in the region immediately north of the Supe Valley have provided for extensive production, processing, and consumption of maize from thirteen sites in the form of a few macrofossils, but mainly as abundant pollen in contexts dating to between 2400 and 2090 B.C. In addition, starch grains and phytoliths yielded traces of maize. Two sites also yielded human coprolites that contained as much as 69 percent maize starch, followed by sweet potato, dating to as early as 3000 B.C. Almost certainly maize was an important staple in coastal valleys as early as 5,000 years ago, and not just a ceremonial crop of great scarcity. Maize agriculture contributed to the diet of coastal settlements and inland of several hundred, even thousands, of people after 3000 B.C. Their inhabitants combined maize and seafoods, mixed with beans and squash cultivated in irrigated valley fields.

Also important was quinoa *(Chenopodium quinoa)* and its relatives. Like amaranth and buckwheat, quinoa comes from a leafy plant and not a grass. It is thus not botanically considered a cereal, and is instead referred to as a “pseudo-cereal.” Nonetheless, it yields nutrient-rich seeds that can be stored like true cereals, and to this day it constitutes an important foodstuff across the Andes, even as it has come to dominate supermarkets in North America

and Europe as a sort of health food. It was probably first domesticated in the south-central Andes of southern Peru and Bolivia and then diffused rapidly north along the mountains and to the coast. Excavations at Panaulauca Cave in the Junin Basin have yielded quinoa seeds, AMS-dated to between 3000 and 2000 B.C.

Aspero and Caral (3000 B.C.)

The first large, sedentary agricultural villages in the Americas appeared in the tropical lowlands of coastal Ecuador, to the north of the coastal deserts of Peru. By 3900 B.C., people of the Valdivia culture were living in some of the earliest sedentary agricultural villages in the Americas and producing finely made pottery (pottery from the coast of Colombia may be even older). By at least 3300 B.C. these early Valdivia villagers were growing beans, cotton, manioc, and maize, and differences in household size and wealth suggest social distinction. But it was around 3200 B.C. on Peru's northern coast that the earliest complex societies and monumental architecture appeared, built by people who did not make pottery. These Late Preceramic period sites dot the river valleys of the coast from the region around Lima northward. The earliest known of these monumental centers may be Sechín Bajo in the Casma River Valley. But it is the Supe River Valley of Peru that has garnered the most widespread attention because of the abundance and size of large-scale constructions undertaken at the sites like Aspero, Caral, and some eighteen others. Together with sites in adjacent valleys the centers of the Supe Valley seem to form an extensive cultural system covering as much as 1800 square kilometers (695 square miles) known as the Caral-Supe, or Norte Chico, Culture.

Because the people of the Norte Chico culture did not make pottery these sites did not initially draw as much attention from archaeologists who were accustomed to the beautiful ceramics of the Moche, Nasca, and other later peoples of the Peruvian coasts. Yet, with the advent of radiocarbon dating the antiquity of sites like Aspero and Caral, and their importance as early centers of political and social complexity, became clear. According to radiocarbon dates, some of the earliest buildings were raised around 3055 B.C. at Aspero, on the shores of the Pacific Ocean. Aspero covers 19 hectares (47 acres) and is dominated by large platforms known as the Huaca Alta, Huaca de los Idolos, and the Huaca de los Sacrificios, and more than a dozen smaller

structures. Unfired clay figurines of humans found in the Huaca de los Idolos give some sense of dress and hairstyle though we cannot know whether such objects were intended as portraits of individuals. Early excavations in the rooms atop the Huaca de los Sacrificios have uncovered the burial of an adult and a two-month-old infant wearing a beaded cap, wrapped in reed mats and woven cotton blankets, and placed in a basket. A grinding stone was placed atop the burial. More recent work has uncovered three more children buried atop the platform. These individuals have been interpreted as sacrificial offerings, though we cannot yet say who the victims were and whether they were local community members or captives from elsewhere.

The Norte Chico people built most of their truly monumental platforms between 2500 and 2000 B.C., roughly contemporary with the Great Pyramid of Giza and Old Kingdom in Egypt, the Akkadian Empire, or the Ur III period of Mesopotamia. The site of Caral, 193 kilometers (120 miles) north of Lima, was centrally located 23 kilometers (14 miles) east of Aspero to take advantage of coastal resources as well as inland agriculture in a part of the Supe Valley packed with large sites, with seven in just 7 kilometers. Archaeologist Ruth Shady Solis argues that this is a “capital zone,” strategically placed to allow communication and trade with the coast and the Andean highlands. The largest centers are also located at passes that allow easier overland access routes to neighboring river valleys. At 66 hectares (163 acres), Caral is not the most extensive site in the Supe Valley—that distinction goes to Era de Pando at nearly 80 hectares (198 acres)—but it is the best studied and exhibits the greatest architectural complexity within an apparently well-planned site that makes it appear more urban.

Caral is situated in the desert above the Supe River, with a distinct boundary between the arid landscape of the monumental center and the lush, leafy vegetation of the riverbanks where agriculture was carried out. There was clearly a concern not to take up precious agricultural space with architecture. There are 32 public buildings in the core of Caral, with groups of houses on the peripheral zones of the site. Buildings were erected with stone poured in using net bags woven from reeds. Stone walls held together by clay mortar formed terraces and retained this construction fill. Atop the platforms were rooms of wood and reeds, plastered with clay. Many show evidence of paint that suggests colorful surfaces. There seems to be a formal organization to buildings at the sites that suggest organized planning rather than gradual, undirected growth through time.

Estimates of labor, based on how many person-hours it would take to construct masonry buildings using ancient techniques, suggest that more than half of labor invested in all construction in the Supe Valley was invested at Caral and one other site, Pueblo Nuevo (55 hectares; 136 acres). The labor invested drops off sharply after that, with the next largest sites having less than half as much labor invested as either Caral or Pueblo Nuevo. While nobody has yet identified any one center as a regional capital, there seems little doubt that Caral and Pueblo Nuevo were able to draw upon significantly larger labor resources for their construction.

The Great Pyramid is the single largest platform at Caral, measuring 171 × 150 meters (561 × 492 feet), and was built between 2200 and 2000 B.C. The platform is 19 meters (~63 feet) high facing the river valley to the south, but 30 meters (98 feet) to the north, where it looms over the site. A staircase descends the south side of the pyramid to a sunken court, 3 meters (10 feet) deep and 22 meters (~71 feet) across. On the northern side of the building there are two staircases flanked by vertical monoliths. At the top of the pyramid are a series of rooms leading one into the next, with one room retaining modeled decorations of faces and small niches that once held ritual offerings. There is also an altar associated with a hearth and ventilation duct, presumably for making burnt offerings. Benches and hearths with subterranean ventilation ducts to feed the fires, and wall niches that likely once held objects of worship all link the cultural and religious practices of Caral and other sites in the Supe Valley to wider patterns evident in sites from the coast into the Andean highlands referred to as the Kotosh Religious Tradition. The discovery of a deposit of thirty-eight bugles made from llama and deer bones, along with smaller flutes crafted from pelican bones, point to the importance of musical performances amidst the town’s architectural splendor. These materials also point to further connections with the highlands, since llamas do not thrive in the coastal desert.

Burials suggest social or class distinctions, with some individuals buried with more grave goods or more finely made textiles. But it hasn’t been possible to archaeologically identify chiefs or kings in the Caral-Supe civilization. Yet more people were needed to build the structures at Caral than can be accounted for by the known houses at the site, suggesting that Caral’s leaders had the authority to draw in people from the region to aid in construction. However, because less research has been dedicated to finding

and excavating the small residential communities that would have provided much of this labor we know little about such communities.

There are further hints of social hierarchy in the divisions of space within Caral, which was divided into upper and lower halves, a pattern typical of later Andean political-ritual centers. The upper half has the largest structures (including the Great Pyramid) and a circular plaza for gatherings. The lower half has smaller public buildings by and large, as well as its own sunken circular plaza. The lower half of the town also contains a workshop where beads were produced from a variety of stones, fish bones, and spiny oyster shells imported from the waters along the coast of Ecuador, along with stone and bone tools and the debris from their manufacture, and such labor may have been restricted to the city's lower half.

FIGURE 18.2 A terraced platform, fronted by a sunken patio, at Caral in the Supe Valley. Sites of the Norte-Chico culture exhibit truly monumental constructions contemporary with the pyramids of Giza, yet their builders did not use ceramics and there is little evidence of political hierarchy. diegorayaces/Fotolia.

There is also suggestive evidence of human sacrifice at Caral, as there was at Aspero. Children were buried under walls, interpreted on the basis of later Andean practices as offerings intended to bring long life to the building. One grave contained the body of a young man buried without accompanying

offerings who was killed by two blows to the head. Whether this is an individual killed in the heat of battle or taken prisoner and executed afterward, it is impossible to say on the basis of the skeleton. We know, however, that warfare played a role in the politics of the region. Weapons found at other contemporary sites across the Peruvian coast include projectile points, slings and spears, and a wooden pole embedded with shark teeth that likely served as an edged club.

Into the Initial Period, from 2000 to 1500 B.C., some sites continued to be occupied, but large centers like Caral lost their position in the political hierarchy and were eclipsed by developments elsewhere along the coast and the Andean highlands. The Huaca Prieta site on the north coast was occupied soon afterward, an important community whose inhabitants were remarkably skilled cotton weavers. Even at this early date, Andean weavers devised elaborate designs, such as a double-headed snake with appended rock crabs, the double-headed motif persisting through more than 3,000 years of later Andean art (see Box 18.1). There is no definitive indication of any disaster that brought down the Norte Chico culture, though the constant threat of El Niño events may have played a role. Perhaps the success of irrigation agriculture in supporting centers along the desert river valleys, or the development of new crops and trade connections, may simply have made it possible for people to move more easily into new regions and establish new centers. Eventually highland centers like Chavin de Huantar became new political heartlands with wide-ranging cultural influence, and eclipsed developments on the coast for centuries.

Box 18.1 Discoveries Andean Textiles

The oldest Andean textiles recovered by archaeologists date to about 2500 B.C., soon after cotton was domesticated. These materials had rather coarse and uneven threads, produced by twisting untreated fiber. After 2000 B.C., the weavers began to use delicate wood and thorn spindles mounted in a special clay, gourd, or wooden cup that minimized vibration to produce much finer cloth. Most Peruvian textiles were made on the so-called backstrap loom, just like those used today in the Andes and Mesoamerica. The disadvantage of this type of loom is that the width of the cloth is limited by the span of the weaver’s arms,

but it is relatively easy to combine the products of several backstrap looms to create wider cloths for garments and wall hangings. The weavers were expert dyers and used about 200 hues from plant and insect dyes, most commonly blue, red, and a multitude of other bright colors. Decorative motifs included simple checkerboards, filled squares, and stylized depictions of birds, felines, and other animals, as well as anthropomorphic figures. Some of the finest textiles were made in the Paracas area of the southern Peruvian coast, where the women sometimes used alpaca wool, which holds a wider range of dyes. They embroidered fine cloaks, mantles, and tunics with intricate designs, among them depictions of ornately dressed people wearing gold nose ornaments that resemble cats' whiskers (see Figure 18.0). They carry staffs of office and hold trophy heads from sacrificial victims. The weaver has been likened to a spider that is creating a web, for the textile motifs of the Andeans again reveal the animistic roots of early civilization in this region: both animals and humans had souls, and shamanistic rituals of transformation played a central role in defining the universal spirituality of the Andean world.

THE "MARITIME FOUNDATIONS" HYPOTHESIS

Rivers running down from the Andes to the Pacific coast cut fertile green passages through Peru's northern coast, one of the driest landscapes in the world. The inhospitable desert and limited availability of agricultural lands along the river banks make the Norte Chico region seem, at first glance, far less hospitable to large settlements than the verdant lowlands of Ecuador to the north. In fact, it was initially a bit of a mystery how large populations might be supported in the Supe Valley. Early excavations yielded little evidence of maize or other crops that might support large populations and presented archaeologists with something of a puzzle. Research at coastal Aspero led archaeologist Michael Moseley to propose an intriguing hypothesis in the 1970s to explain how large, settled populations might have been sustained even in the absence of robust agriculture. The fisheries of the Pacific Ocean are among the richest in the world and yield vast quantities of anchovies, sardines, seabirds, and shellfish close to shore that could have fed the growing population with relatively little effort using nets and reed canoes.

The fish offered predictable food supplies, which could be dried or ground into storable fish meal. Such harvests provided an abundance of protein, capable of supporting large numbers of people. The surplus time left to these coastal fisher-folk could then have been turned toward the construction of the ceremonial center. This “Maritime Hypothesis” for the rise of civilization in South America was in many ways a revolutionary idea, directly countering long-held notions that only through agriculture, and in particular through intensive agriculture to raise cereals like maize, wheat, and rice, could people produce sufficient surplus food to support the development of complex chiefdoms and states (see Chapter 2).

More recent research has provided a more nuanced perspective on the Maritime Hypothesis. While the people of Aspero were predominantly fisher-people collecting the bounty of the Pacific, domesticated foodstuffs including squash, chilies, beans, sweet potatoes, avocados, guava, and maize were grown in abundance further inland, evident in starch grains and phytoliths recovered during lab analysis of excavated remains. Cotton was grown to make clothing, blankets, and perhaps most importantly nets for fishing. In trade for agricultural products the people of Aspero provided mollusks and fish, particularly sardines and anchovies drawn from the rich fisheries of the coast, as well as sea birds and mammals like sea lion. This trade between coastal and inland communities provided spurred on social complexity, while buffering large populations against threats to either ocean resources or crop harvests. That coastal and inland centers seem to have developed contemporaneously suggests that this complementarity of resources was key to demographic and political growth. No one can deny the importance of marine resources in the coastal economic equation, but such foods were just one component in a much broader developmental process, which also occurred inland, in the highlands, and in areas where the width of the coastal shelf precluded extensive anchovy fishing.

Like Mesoamerica, the Andes region was one of dramatically contrasting environments, where highland and lowland communities depended on one another for essential commodities. The highland Andeans domesticated plants like quinoa, potatoes, and beans by at least 2500 B.C., transforming diet at higher elevations in dramatic ways. But the farmers needed lowland commodities, like salt, protein-rich fish meal, and seaweed. Seaweed is rich in iodine, making it an important medicine for combating endemic goiter (a thyroid condition) and other medical problems. Carbohydrate foods, like the

tubers oca, ullucu, and white potatoes, which could not be grown at low elevations, have been found on archaeological sites in the Ancón-Chillón region of the north coast. The formation of states in both lowlands and highlands may have been fostered by continuous, often highly localized exchanges between groups on the coast and in the foothills and highlands inland.

The rich ocean resources of the coast and increasingly intensive irrigation agriculture supported large, densely concentrated populations in favored areas near river valleys. Once irrigated, these valleys could grow large crops of such warmth-loving plants as beans, maize, and cotton, the last vital to the textiles that were such an important part of Andean society. The leaders of these societies were able to organize the large labor forces needed not only for building large ceremonial centers but also for transforming river valleys with sizable irrigation schemes into highly productive lands. In this scenario, irrigation farming was in the hands of a well-defined group of authority figures, who took advantage of existing simple technology and local populations to create new economies. This transformation, based as it was on trade, maize agriculture, and a maritime diet, acted as a catalyst for radical changes in Andean society. Andean civilization evolved in many ways, in a wide variety of ecological zones, ultimately from highland, tropical rainforest, and lowland subsistence strategies that were all of great antiquity, some dating to the earliest millennia of human settlement.

THE INITIAL PERIOD (1800–800 B.C.)

The Initial Period of Andean civilization lasted about 1,000 years, manifested by profound changes in settlement patterns and subsistence and by new concerns with the cosmos and powerful religious beliefs. As maize and cotton cultivation assumed greater importance, coastal communities tended to move inland, closer to the growing irrigation systems in river valleys. Judging from excavated skeletons, in a pattern echoed around the world the transition to agriculture in coastal Peru was not an easy one. Much of the population had a short life expectancy and suffered from frequent malnutrition. Agriculture may have supported more people, but the dietary stress found at Paloma and other earlier foraging sites seems to have intensified in many places during the Initial Period. By this time, coastal fishing villages were much larger communities, with highly organized social

institutions, capable of building large ceremonial sites like El Paraíso and a large earthen mound 24 meters (80 feet) high at Salinas de Chao. The increasing complexity of coastal society was reflected in a wave of monumental construction in both the lowlands and highlands. By 2000 B.C., early ceremonial sites featured rectangular platform mounds fronting on a circular, sunken court that was usually housed in a rectangular forecourt. This ensured that people entered the forecourt of the sacred complex at ground level, descended into the sunken court, and then climbed the temple platform.

After 2000 B.C., coastal ceremonial buildings were greatly enhanced; the distinctive U-shaped platform employed at El Paraíso—with the open end facing eastward, or upstream—became commonplace. Pyramids formed the base of the U and surrounding mounds enclosed the courtyard, which usually featured several sunken courts. Such sunken plazas were being built at Caral as early as 2600 B.C. At least forty-five U-shaped ceremonial centers are known to have existed on the north coast alone, all of them designed to communicate a powerful visual imagery and often adorned with intricate adobe friezes.

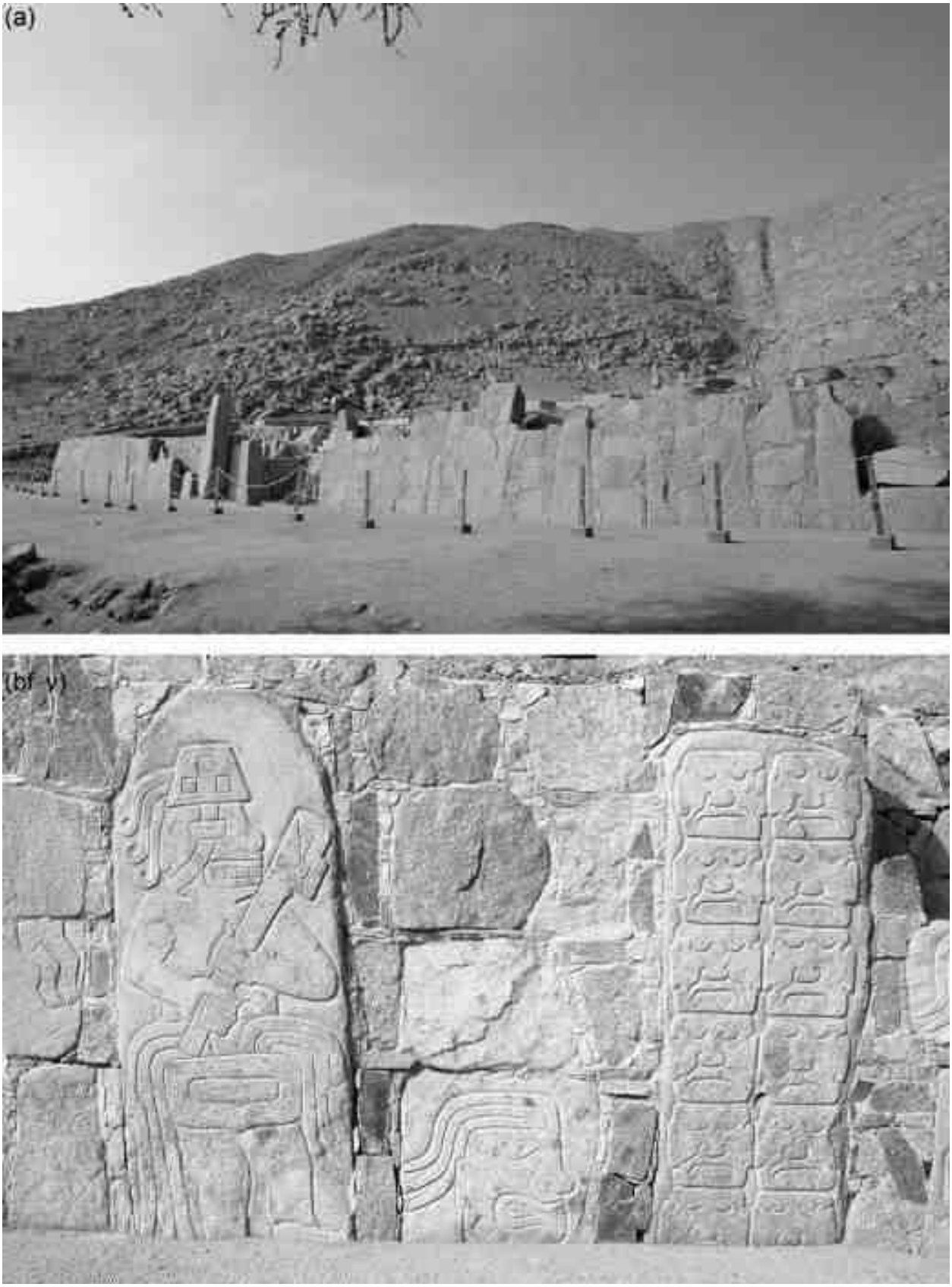
The Casma Valley (2150–1200 B.C.)

The Sechín Alto complex is a group of related sites that cover over 10 square kilometers (nearly 4 square miles) in the Casma Valley on the North Coast, lying near patches of fertile agricultural land. Several important sites share common layouts and orientation of mounds, all of them in constant interaction between 2150 and 1200 B.C. Sechín Alto, which covers 45 hectares (140 acres), is a huge ceremonial complex dominated by a stone-faced, 40-meter-high (130-foot-high) platform. This mound, nearly 300 meters (1,000 feet) long and over 250 meters (800 feet) wide, and constructed partly from conical adobes typical of the period, forms the base of a U-shaped ceremonial center with sunken courts, plazas, and flanking mounds. Large granite blocks were later added to the adobe construction. This was probably the largest building in the Americas when it was constructed. A vast sprawl of houses and platforms lies around this largest of all early ceremonial structures.

Another just to the southwest, Cerro Sechín, lies atop a granitic hill and covers some 5 hectares (12.3 acres). A quadrangular, three-tiered, and stepped platform is flanked on each side by two smaller buildings. A stone

enclosure wall, added relatively late in the site's history, contains nearly 400 engraved stone slabs, which depict a procession of armed men, perhaps warrior-priests bearing clubs or staffs, making their way through maimed human victims and mutilated body parts including stacked heads (Figure 18.3). The monoliths either depict mythic or religious scenes or (more likely) are graphic evidence for raiding, warfare, or human sacrifice during Sechín times. The Sechín shrines employ one of the persistent themes of ceremonial architecture in the Andes region: artificially raising or lowering sacred spaces relative to one another in complementary opposition along a horizontal axis.

FIGURE 18.3 (a) The reconstructed enclosure wall with monoliths at Cerro Sechín. (b) Cerro Sechín monoliths. A grimacing warrior armed with a club and wearing a plumed headdress is flanked by a severed human head and an additional pile of ten such heads, perhaps victims of a sacrificial ritual. Werner Forman/Universal Images Group/Getty Images.


(a)
(b)

Not 5 kilometers (3.1 miles) to the southeast of Cerro Sechín is the dual mound complex of Pampa de las Llamas-Moxeke, both structures aligned along an axis 41 degrees east of north. The western mound—called Moxeke—measures 160 × 170 meters (524 × 557 feet), and stands 30 meters high (98 feet). Built of conical adobes, Moxeke was covered in elaborate painted adobe friezes of anthropomorphic figures. Some 1.4 kilometers (0.87 miles) to the east is Huaca A, measuring 140 meters (459 feet) on each side and standing 9 meters (30 feet) high. Huaca A is quite different from Moxeke, and built of roughhewn stones set in clay mortar, forming a multichambered structure with niches ringing roughly rectangular rooms. These rooms have high thresholds, and were once blocked by wooden posts. Remnants of beads, textiles, mirrors, and rodent bones—suggesting, perhaps storage of food—have led archaeologists working there to postulate that Huaca A served as a storehouse.

Still other contemporary sites are located nearby in the Casma Valley, yielding the picture of a region packed with ritual centers and surrounded by small villages providing the populace to sustain them. Most people probably lived in smaller villages or near the irrigation systems in major river valleys. By this time, hierarchies of smaller settlements were ruled by a small elite, perhaps prominent kin leaders who owed their position to their religious abilities and political connections. The stone carvings of the Casma Valley suggest that violence played at least some role in establishing and maintaining political power. Coastal society was undergoing major change at a rapid pace, change reflected in much larger monumental construction than that on the highlands at the time.

In many parts of the Americas the ritual manipulation of smoke and water served as a way of bridging stratified layers of air, earth, and bodies of water in the cosmos. Thus, it is argued, the early ceremonial centers of the coast, and also the highlands, with their sunken patios and soaring platforms reflect an ancient tradition of bridging underworld and sky to maintain communication with the spiritual world. At the most famous highland center, Chavín de Huantar (described below), galleries and ritual waterways flowed through the ceremonial platform and beneath a circular, sunken court, allowing the water to resonate underground so that the temple “roared.” The vast, open courts of the coastal U-shaped ceremonial complexes may have housed sacred orchards and gardens irrigated with manipulated water

supplies. Such ritual waterways achieved great elaboration in the Chimú state of the north coast many centuries later.

El Paraíso (1800 B.C.)

Small kingdoms prospered in the coastal valleys before 2000 B.C., marked by increasingly elaborate ceremonial centers. The Buena Vista shrine in the Chillón Valley was a sophisticated astronomical observatory as early as 2200 B.C. El Paraíso, by the mouth of the same valley near Lima, dates to about 1800 B.C. Six huge square buildings constructed of roughly shaped stone blocks, cemented with unfired clay, form a vast, U-shaped ceremonial complex. Tiers of platforms reached by staircases surround each platform, the clay-faced outer walls polished and painted in brilliant hues. As much as 100,000 tons of rock excavated from the nearby hills were used to build the El Paraíso buildings, the largest of which was more than 250 meters (830 feet) long and 50 meters (166 feet) wide, standing more than 10 meters (30 feet) above the plain (Figure 18.3). The rooms inside were covered with matting roofs supported by willow posts. A huge elongated patio covering more than 2.5 hectares (6.5 acres) lies inside the U, the precursor of a pervasive form of public architecture along the coast after 2000 B.C.

What is surprising is that the large El Paraíso structures were erected by people from dozens of scattered villages. For reasons as yet not understood, they united in a building project that channeled most of their surplus energies into a vast monumental center, a place where few people lived but where everyone congregated for major public ceremonies. El Paraíso raises a fundamental question about early complexity leading to the development of states. Did people need to control their food surpluses to sustain a complex society, or were the surpluses from maritime resources sufficient for this purpose? While some archaeologists argue that this was the case, others point to the periodic El Niños, which disrupted normally predictable food supplies without warning. They believe El Paraíso was built when new agricultural economies were transforming coastal society, causing people to move inland and develop irrigation schemes. Significantly, El Paraíso's U-shaped layout coincided with the appearance of similarly shaped ceremonial centers further inland. Irrigation technology required a major reorganization of labor, which coincided with the appearance of new artistic traditions and architectural devices. Perhaps El Paraíso's building coincided with rapid social changes,

intense pressure on traditional food resources, and the adoption of new economies, which led to its abandonment.

Small Kingdoms or Large Chiefdoms?

In social and political terms, the Initial Period remains somewhat of a mystery. There are few signs in burial rituals of any social ranking or personal wealth. There is not a great deal of archaeological data to indicate that decision making and leadership were inherited, and instead, they may have rotated from one person to the next on a regular schedule. The many ceremonial centers crowded into river valleys suggest that different kin groups commemorated their identities by erecting their own shrines, perhaps on a competitive basis. There were probably some larger polities that extended over several river valleys, but who held sway over each of these political units is unknown. Were the leaders of centers like Cerro Sechín presiding over a highly organized society, where the elite forced their subjects to create large irrigation schemes and to build enormous platforms as a form of taxation by labor, so common in later Andean societies (Figure 18.4)? Or were the earliest irrigation canals built communally, while platform mounds were erected gradually in small layers by villagers as a conscious act of religious devotion conducted again and again over many generations? Many more excavations will be needed to resolve this controversy, but significant variations in settlement size, diet, and ceremonial centers show that major social and political change was underway.

FIGURE 18.4 El Paraíso, with a view from the desert to the northeast over the ruins toward the narrow river valley, and the modern town beyond. Ernesto Benavides/AFP/Getty Images.

The Initial Period witnessed a series of small political units that might have been large chiefdoms or incipient kingdoms develop along the north and central coast. Major political units grew in the Moche, Casma, Chillón, and other river valleys, where large-scale irrigation was feasible. These polities traded constantly with one another and with highland communities, much of the exchange being in fish meal and in cotton, which was grown on the coast but in demand throughout the Andean region. Great sites like Huaca La Florida, about 13 kilometers (8 miles) inland of El Paraíso, were situated in the midst of an artificial environment created by irrigation. By the end of the Initial Period in 900 B.C., coastal irrigation works were on a far larger scale. Conditions for the intensification of agriculture were favorable: gentle, cultivable slopes inland; a population expert in farming cotton and other crops; and an ample labor force that could subsist off grain and plentiful Pacific fish. The farmers reclaimed desert by building canals along the steeper areas of the coastal valleys, where the gradients made the diversion of river water an easy task. At first every family may have irrigated its own sloping gardens, but gradually each community grew so large that essential irrigation works could be handled only by cooperative effort. Eventually,

simple cooperative works between families and neighboring communities evolved into elaborate public works that embraced entire inland valleys, controlled by a central authority who monopolized water supplies and the land they irrigated.

This process of organization, which may have taken centuries, was the result of many complex factors, among them population growth and an increase in the number of nonfarmers, such as priests and artisans, whose food needs had to be met by other people. At some time before 1000 B.C., the leaders of Huaca La Florida and other coastal centers may have devised a forerunner of the celebrated *mit'a* labor tax used 2,000 years later by the Inka, by which people worked a certain number of days per year for the state as either construction laborers or farmers. When one worked for the state, pay was given in food and shelter, sometimes in the form of a share of crops from state lands. By 800 B.C., many exchange networks linked coastal river valleys with one another and with the highlands. New religious beliefs and ideologies spread along these networks from the highlands during the Initial Period.

Highlands: Chavín de Huantar (c. 1500–250 B.C.)

During the Initial Period, following the decline of the Norte Chico sites like Caral and Aspero, political and technological change continued apace. Pottery and metalwork became widespread across the region, with technologies and styles moving back and forth from coastal Ecuador south into Peru and across the Andes into Amazonia. Multi-directional trade and the connectivity of its varied civilizations continued to be a hallmark of Andean civilizations throughout all periods. Throughout the changes of the Initial period, no one place served as a uniquely powerful cultural or political nexus. This seems to have changed with the emergence of a new and particularly influential polity centered on Chavín de Huántar. Over a period of about 700 years the builders of Chavín constructed one of the most physically imposing sites in the Andes, and its trade networks brought in raw materials from hundreds of kilometers away while exporting finely crafted goods that were distributed across the Andes.

In the first half of the 16th century A.D., the Spanish Conquistador Pedro Cieza de Leon traveled through the Andean highlands recently, and, incompletely, incorporated into the Spanish Empire and saw the long-abandoned site of Chavín de Huántar. Cieza de Leon had seen the cities,

temples, and roads built by the magnificent Inka Empire, and yet he was so impressed by the ruins of Chavín that looking upon the large carved animal and human heads decorating its buildings he took to heart local legends that the center had been built by supernatural giants. In 1919, Peruvian archaeologist Julio Tello conducted the first modern excavation of the site, and delved into the ruins of the stone temple-platform that dominates the center. He recovered stone carvings and pottery adorned with a remarkable array of forest animals like jaguars, birds of prey, caimans, and mythical part-animal and part-human beasts. Soon afterward, Tello recognized the same animal motifs on pottery and goldwork from the north coast, far from Chavín de Huantar itself. He also found Chavín-like motifs on pottery and textiles buried with the dead on the arid Paracas peninsula in the southeast and on the shores of Lake Titicaca. He became convinced that Chavín was the "mother culture" of Andean civilization, the southern equivalent of the Olmec in Mesoamerica and a pan-Andean precursor to the later Tiwanaku and Inka civilizations of the highlands. Chavín was, he believed, originally a jungle culture from east of the mountains, which would account for the forest animals in its artistic tradition.

Although Tello's notion of a mother culture was controversial, most Andeanists agreed that Chavín de Huántar had emerged in first millennium A.D. in the northern Andes of Peru as a cultural center so influential that it impacted religious practices and styles of art and architecture across the Andes, giving shape to the period known as the Early Horizon (900–200 B.C.). By the 1970s, they thought of the Chavín culture less as an expansionist state and more as a religious cult, which spread from the north central highlands over a wide area. The distinctive Chavín iconography, reflected in art and ceremonial architecture, was thought to have brought "civilization" to much of the Andes, spreading along widespread trade routes that had existed for centuries. Most experts now believe that Chavín was indeed a religious cult, but one of limited distribution with little influence beyond the north-central highlands. The Chavín culture itself may have enjoyed considerable complexity, including some of the earliest social stratification in the central Andes, for there are clear signs of a privileged elite in burials and more elaborate dwellings. But its distinctive art and architecture were inspired, like those at other sites, by earlier cultures in the highlands and in the jungles to the east of the Andes.

Permanent settlements around Chavín can be radiocarbon dated as early as 3000 B.C., but the first monumental architecture was constructed no later than 900 B.C. and remained in use until perhaps 200 B.C. based on calibrated radiocarbon dates. Some scholars argue that the earliest monumental construction at Chavín was contemporary with Initial Period sites of the coast and the eastern flanks of the Andes. The site may therefore have begun as but one of many political centers, before ascending in its cultural importance. The site open to visitors today consists of the largest buildings of the political and ritual center, covering an area of about 10 hectares (25 acres). The great majority of the population would have lived in the town around the architectural core of the site covering an area of about 50 hectares (124 acres), but little of that ancient settlement has been excavated and much is now buried under modern construction or agricultural fields. Nonetheless, 2,000–3,000 people represent a conservative estimate of the site's population at the height of its power.

Chavín de Huántar would seem to be perfectly located to take advantage of resources traded with the coast to the west and the lowland jungles to the east. Located in the Ancash region of northern Peru, some 250 kilometers (160 miles) north of the modern capital of Lima, the site sits at about 3,200 meters (about 10,500 feet) above sea level, at the junctions of the Mosna and Wacheqsa rivers which merge to form the Marañon, which flows down the Andes to the east as a tributary of the Amazon. Early community members quickly began to modify the landscape and, among other constructions, built a 6-meter (~20-feet) stone bridge across the Wacheqsa River that is still used today. The valley in which Chavín nestles is also at a pass on a major north-south running corridor through the Andes that exits toward the Pacific coast. Hot springs, abundant building materials, and fertile soils on the valley bottom, with ready access to highland grasslands for pasture and wild game like deer round out the picture of a resource-rich valley. The inhabitants could cultivate maize in irrigated fields on the valley floor, grow potatoes on the surrounding slopes, and herd camelids on highland grasslands within easy range. Potatoes and quinoa played a larger role in the agricultural economy than maize, though all were grown with other crops in terraced fields.

Early in the occupation of Chavín, most meat came from wild game, including deer and the wild camelids called vicuñas (still prized today for their fine wool). Over time, though, the primary meat source at Chavín shifted overwhelmingly to the large bodied, domesticated llama, which by

400 B.C. accounted for more than 90% of the meat consumed. Llamas provide meat and wool, but unlike the smaller, wild vicuña the llama also serves as a cargo bearer for heavy long-distance transportation. The increasing abundance of llamas, therefore, tells us not only that they were an important protein source but also that they were plentiful and used to support and extend Chavin's reach through trade.

Camelids thrive not on the valley floor, but in the colder, high altitude grasslands above Chavín, and communities there would have provided llamas and vicuñas to the political center through tax or trade. Intriguingly, most of the highly prized, meaty haunches and flanks of these animals found their way into the lowland town, leaving the heads and lower legs for consumption by the herders and hunters of the highlands. Differences in meat consumption also point to status differences among the residents of Chavín itself. Residents living closer to the ceremonial center of Chavín were privileged to eat the meat of younger llamas who might otherwise have provided economic benefit as cargo animals. Those people living in houses further away from the center tended to eat older, presumably tougher and less desirable, llamas who had outlived their role as beasts of burden.

The Architecture of a Religious Center

We know little about governance at Chavín de Huántar, and while the mass and quality of the architecture at the site suggests that it was well planned and centrally organized we cannot say for certain how people may have been convinced or conscripted to participate in these building efforts. Many scholars believe that Chavín was a center of religious reference, and probably a major pilgrimage site. It may be, then, that people chose to contribute their efforts toward the construction of the sites temples in no small part because of their devotion to the local pantheon of deities. Chavín may have represented a revitalization of earlier coastal traditions. However, if revised chronologies proposed by John Rick and colleagues are correct it would push foundational dates of Chavín back into the Initial Period and the site then began as a particular highland representation contemporary with those coastal sites. The center perhaps survived the failure of coastal centers, buffered by its location from the devastating impacts of El Niño events on the coasts. The major architecture of Chavín de Huántar visible on the surface today was built over a period of some 450–500 years, during which the major temples

and other buildings were refurbished and rebuilt, creating a complex of conjoined buildings.

The so-called “Old Temple” is one of the earliest of these constructions constructed at least by 900 B.C., though some researchers believe it to have an earlier foundation date extending back into the Initial Period. The Old Temple is a U-shaped building with the opening of the U facing to the east, the direction of sunrise and the rainforest, and measures about 100 meters (328 feet) in width and 14 meters (46 feet) in height (Figure 18.5a). Between the arms of the Old Temple is a sunken circular plaza 21 meters (69 feet) in diameter. The sunken plaza is lined with finely carved stones depicting animals and what may be masked priests in a procession. Some figures hold trumpets and some seem to hold weapons, which are otherwise rarely depicted in Chavin art. Some figures hold stalks of San Pedro cactus, a plant that yields the hallucinogenic drug mescaline and was employed widely across the Andes in acts of religious devotion. The layout—a U-shaped temple and circular, sunken plaza—recalls older building complexes of the Pacific coast, and is one of many cultural connections pointing to the builders of Chavín as inheritors and innovators of older traditions, rather than as the outright inventors of wholly new religious, political, and cultural patterns.

FIGURE 18.5 Chavín de Huantar, Peru. (a) Plan of the ceremonial center with major architectural features. Reciprocity Images/Alamy Stock Photo. (b) A somewhat stylized drawing of the Lanzón monolith in the heart of the temple. About 4.5 meters (15 feet) high, the Lanzón depicts an anthropomorphic being, with eyes gazing upward and a snarling feline mouth with great fangs. The right hand, with claw-like nails, is raised; the left is by its side. Snarling felines stare in profile from the elaborate headdress and a girdle of felines surrounds the waist. Unlisted Images, Inc./Alamy Stock Photo.

(a)

(b)

The cores of buildings in Chavin's ceremonial center were of carefully laid stone with a finely cut stone veneer. From these buildings larger than life human, animal, and supernatural heads jut out far above the ground as tenoned sculptures. Some are fanged beings, and some are depicted with mucus pouring forth from their nostrils—probably indicative of a hallucinogenic drug called vilca made from the seeds of a tree that grows on the eastern flanks of the Andes. Together with imagery of San Pedro cactus, such depictions emphasize the significance of religious practitioners who used psychoactive plants to participate in other-worldly journeys.

The Old Temple was not solid but instead crisscrossed by passageways, with channels from the surface providing airflow into the labyrinth. These chambers not only clear the air; they also amplify and propagate the spoken voice, creating a soundscape that must have awed visitors and given the impression the deities of the temple were themselves speaking. Access to such a warren of spaces was likely restricted to only the most elite members of society, perhaps the ruling class of Chavin or possibly too high-status pilgrims. Offerings of pottery and other imported goods from around Peru suggest that people journeyed to Chavín to pay their respects.

At the heart of the building is an intersection of tunnels which houses the "Lanzón" (big lance), a spear- or knife-shaped monument of granite carved in relief with the figure of a being presumed to be the principal deity of the Chavín religion. A fierce, fanged animal-like head sits on a human-like body, with one arm up and one down (Figure 18.5b). The Lanzón's connections to floor and ceiling suggest that it may have served as a conduit between the underworld, the earth, and the heavens. Julio Tello found a smaller gallery above the head, so close to the figure that one could reach the top of the Lanzón by removing a single stone block. Thus, pronouncements by Chavin's leaders could be arranged in such a way that they appeared to be responses from the Lanzón itself (see Box 18.2). Atop the Lanzón investigators found offerings of human finger bones carved in Chavín-style designs. Were these self-sacrifices of devoted worshippers, or maybe they were relics of revered ancestors? We simply lack the data to say.

The Old Temple was eventually expanded and its southern arm was extended some 45 meters (147 feet), forming a New Temple, also referred to as the Castillo (castle). The focus of the public space fronting the temples shifted to a plaza 105 × 85 meters (344 × 279 feet) in front of the Castillo,

within which is a square sunken square court 20 meters (66 feet) on a side. Stairs descend from all sides into this sunken court, and paired black and white steps ascend from it to the Castillo. Here, again, we can see echoes of the sunken patios of earlier coastal centers where large crowds must have gathered to participate in ritual activities.

Box 18.2 "And the Trumpet Shall Sound"—Chavín de Huantar, A.D. 800

Chavín de Huantar, the Andes foothills, Peru, 800 B.C. Steady rain mingles with wood smoke and incense above the plazas and terraces of the ancient shrine. Hidden passages inside the Old Temple sound and thunder with fast-flowing water in the calm morning air. A watching crowd stands in silence, oblivious to the damp. Suddenly, a conch trumpet sounds and sounds again. A dancing, masked shaman appears, deep in a hallucinogenic trance. He chants, sings, utters the pronouncements of the revered oracle, and then vanishes into clouds of smoke and into the depths of the shrine as suddenly as he appeared.

We often forget that many of the great monuments of the past were settings for public ceremonies, where sound and acoustic effects were part of the public theater. We fail to remember that places like the Parthenon, the Temple of Amun at Karnak, Egypt, Maya Tikal, and Chavín de Huantar were not only ablaze with bright, symbolic colors, but resonated with powerful sounds as well. We're finding that the past had powerful voices that are just much part of the archaeological record as stone ruins. Thanks to the fortunate discovery of the twenty conch trumpets at Chavín de Huantar, experts have been able to expand our understanding of how conch trumpets played an important part in rituals at this revered and ancient shrine. Chavín's temple is a maze of subterranean tunnels, where water resonates through hidden defiles. While an expert conch trumpet player blew, researchers recorded him with tiny microphones inside his mouth, the shell's mouthpiece, and in the main body and opening. The effect was like a French horn, the pitch changing when the player put his hand inside the bell. By placing microphones inside the temple's ceremonial chamber, they found that the drone of the trumpet sounded as if it came from several directions

simultaneously. The effect was a sense of droning confusion, which must have added to the sense of awe and supernatural fear.

Strombus, the conch, was valued throughout much of the ancient American world. The conch thrives in shallow water, which makes the shells easy to collect, and its meat is a delicious addition to the larder of coastal peoples to this day. It is also easy to fashion the conch into a trumpet by cutting off its central spine and grinding out a mouthpiece. Such conch trumpets are part of humanity's musical history. The Greek fish-tailed sea god Triton was said to control the waves by blowing his conch trumpet. An ancient Hindu text, the *Bhagavad Gita*, a Song of God, describes how the Lord Krishna and the Prince Arjuna blew conch shell horns as they rode into battle seated in a giant chariot pulled by white horses. The US Coast Guard even lists conch horns as a legitimate sound-making device in its official *Navigation Rules.* The Maya considered conches sacred, for they symbolized the Moon Goddess, night, darkness, and connections with the Underworld, the place where the Moon died and was reborn. When conch trumpets sounded, they symbolized rebirth, also timeless wisdom. Conch trumpets sounded at great public ceremonies, announced approaching visitors, and played important roles in the hunt and in war. These versatile instruments had many symbolic voices, were pregnant with numerous associations.

In the Andes, artisans also scraped away the spines and white nacre (mother of pearl) from *spondylus* (spiny oyster) shells to expose the brilliant red-orange interior colors that linked the shells symbolically to sacred figures associated with origin myths, also with gods and ancestors. Andeans used its shell as inlay for fine jewelry and other ornaments. Perhaps unsurprisingly, given their origin, there were links between *spondylus* and water, too. We know that in later times, at sites such as Chan Chan (Chapter 18), Andean lords offered *spondylus* shell dust to the gods to avert drought. In Mesoamerica, *Spondylus* and jade were symbolic of earth and water; the same association, this time with greenstone, was true in the Andes. The red colors inside the shell linked it to blood, females, and sacrifice. It may also have symbolized spiritual transformation, the ability to move from the realm of the living to that of the ancestors, an important, and ancient, practice in Andean shamanism.

Spondylus flesh is seasonally toxic, so much so that the Quechua Indians of the highlands called it the "Food of the Gods," for their myths

proclaimed that only deities could consume it safely. When toxic, the meat has hallucinogenic qualities that could induce shamanistic trances. The precious flesh could have been smoked or dried on the coast before being transported inland by llama caravans. Thus, *Spondylus* served as a conduit between the human and supernatural worlds. The "Food of the Gods" was one way of feeding the appetites of the ancestors who controlled water sources and the future of human existence. *Spondylus* was far more than a valued possession; it was a symbolic bridge to life itself in both Andean and Maya societies. For over 3,000 years, *Spondylus* shells, and probably their dried flesh, passed from the Pacific coast in what is now Ecuador southward along the arid Peruvian coast and high into the Andes.

The construction of the Castillo and adjacent plazas required more space, and the Chavín builders accomplished this by redirecting the Mosna River away from the buildings, while stone-lined drains were built beneath the temple to facilitate drainage and prevent the building from collapsing. Some scholars have proposed that water moving through the channels beneath the Castillo created a rushing sound that was significant for the rituals performed there. Atop the Castillo was a platform with a pair of matching two-roomed buildings, while in the face of the building there were two window-like openings with staircases hidden behind them. These windows would have allowed priests or other political or religious figures to apparently emerge from nowhere into the view of crowds below.

Precisely what or who constituted the focus of public ritual life at Chavín is difficult to say; however, the buildings may have served in conjunction with natural features of the landscape to mark the movement of heavenly bodies. The Castillo and the Old Temple are both oriented toward the east and a hill where the sun rose for the summer solstice. Some have also suggested that a 20-ton stone altar at the edge of the main rectangular plaza is carved with small dimples to represent the Pleiades, a constellation of stars the movement of which through the sky was used by many indigenous peoples of the Americas to mark the changing seasons.

One of the distinguishing characteristics of the Chavin culture is its artistic style, which was expressed on monumental carvings like the Lanzon, the carved slabs of the circular courtyard in front of the Old Temple, and other

large pieces like the Tello Obelisk and the Raimondi Stela (these last two objects were removed from the site and now on display in Lima). The distinctive style, though, was also inscribed onto smaller objects of ceramic, metal, and textile, and the portability of these goods likely facilitated the spread of Chavin cultural influence.

Experts believe there were two major deities at Chavín: the “Smiling God” depicted on the Lanzón, a personage with a human body and feline face, hands, and feet; and the “Staff God,” a standing male with downturned, snarling mouth and serpent headdress. The Staff God would persist for millennia in one form or another, appearing in the art and architecture of later civilizations such as Tiwanku and Wari. He grasps two staffs, each adorned with feline heads and jaguar mouths. Both of these supernatural beings were anthropomorphic gods, perhaps symbols of complex rituals of transformation that took place in the Old Temple. Although there are facets of this art that are clearly shared with other Andean traditions—including images of jaguars, staff-gods, and more—Chavín art is in many ways unique. Beings that would seem to be recognizable animals, such as jaguar or puma, are made fantastic through exaggerated claws or fangs, or animal heads are attached to anthropomorphic bodies. The eyes of these creatures are round, and moon-like, often rolled upward. Marked borders or lips around the mouth turn upward in a snarl, or downward in a grimace. There is bilateral symmetry with forms duplicated in mirror image, and there is repetition with features of the body multiplied. There is also “contour rivalry,” in which the image may be interpreted differently from different perspectives. The Raimondi Stela is perhaps the finest example of this. At first glance it depicts a singular deity grasping stylized San Pedro cacti (used in hallucinogenic rituals) in each clawed hand, his lips curled downward and eyes cast upward toward a fantastic headdress. If the same carving were to be viewed upside down, however, the deity is inverted and a new being (or beings) emerges from the imagery: here is a head with snarling upturned lips and a series of reptilian faces descending from it. What makes such contour rivalry even more intriguing is that the Raimondi Stone is a large vertical column, which was probably originally set “upright”; it is unlikely that people did head-stands to see it from both perspectives.

Caymans, jaguars, and snakes, the most common animals, are from the rainforest to the east, part of a compelling imagery that seems to reconcile the dichotomy between high mountains and humid jungle, bringing together

ancient beliefs from the forest with those of farmers in deserts and remote mountain valleys. Rich but little known artistic traditions still flourish in the lowlands. The elaborate artifacts that form this tradition involve complex metaphors of animism (a belief in the total spirituality of the universe). Bird feathers, carnivore teeth, and seashells are all examples of animated transformations of natural forms into artifacts, made possible by the rich natural resources of the forest environment. Most of these artifacts are ephemeral, destined to rot back into the forest within a few years. As natural objects they are infused with the belief that the entire universe has spiritual meaning, that every living thing—anything that grows, moves, or develops—has a soul, just as humans do. This view is reinforced by the spiritual transformations of people into beasts or birds by ingesting hallucinogenic drugs and through complex shamanistic rituals. The anthropomorphic beings at Chavín may symbolize this transformation. The mescaline in the San Pedro cactus wielded by the being on the Raimondi Stela has mind-altering effects, producing multicolored visions, shapes, and patterns and giving the shaman great powers. The hallucinogen sends the shaman on flowing journeys through the subconscious, transforming him into a fierce, cunning jaguar. Animals, humans, and plants are always interconnected, depending on one another—all equals in an intensely spiritual world.

Objects in the Chavín style are found across the Andean region during the Early Horizon. Perhaps the power of Chavín came from the finery of the luxury goods produced by its artisans. Items of gold, carved stonework, and inscribed seashells were exported across much of Peru, while pink *Spondylus* (spiny oyster) seashells were brought in from the Ecuadorian coast, 800 kilometers (500 miles) to the north. Indeed, it is during the Early Horizon that gold became more widely spread throughout Peru, as Chavín-style adornments, marine-shell trumpets, and spoons for the insufflation (inhalation through the nose) of vilca snuff among other items were traded widely. Chavín-style ceramics were widespread, marked by distinctive incised bowls and stirrup spouted bottles—often a dark gray—decorated by polishing, stamping, and modeling. Textiles reflecting Chavín imagery have been found as far away as the south coast of Peru at sites like Carhua and Paracas. Although a great many of these items are said to be in the Chavín style, they represent a wide variety in production techniques and not all were produced in Chavín de Huántar itself but many instead are local takes on the Chavín patterns. This influence of Chavín art and high culture seems to have

spread through trade and other non-violent means. In marked contrast to many later Andean civilizations like the Moche, there are few military themes in Chavín art despite the depiction of fearsome looking beings.

As finished goods flowed out from Chavín de Huántar, raw materials flowed in. Obsidian from 450 kilometers (280 miles) to the south in the Ayacucho region was imported in such quantities that it was used in place of local chert for chipped stone tools. Seashells from the coast were carved at Chavín and then exported as finished goods. Chavín may also have controlled a source of cinnabar—mercury ore used as a highly valued red pigment—in the Ayacucho area via the Atalla site. Atalla was the first large ceremonial center in its region, and it inhabitants used Chavín style ceramics and masonry, even while maintaining local styles of housing and burials.

Despite its influence, construction of the monumental core of the site stopped abruptly in about 800 B.C. For three centuries, the great ceremonial center continued in use, but with only maintenance of the buildings. No one knows why this changeover happened so abruptly for a great deal of ceremonial activity, including feasting, long-distance trade, and the production of ritual objects fabricated from exotic materials, continued unabated. It is as if there was a shift in leadership away from establishing authority by the construction of imposing public buildings to more nuanced elaborations of cultural authority, the ancient and revered buildings acting as an authoritarian backdrop to a much wider range of activities. An earthquake seems to have collapsed many of Chavín de Huantar's buildings in about 500 B.C.

By 250 B.C. Chavín de Huantar had been eclipsed and its architectural center fell into ruins, occupied by later peoples who abandoned the artistic traditions of the civilization's glory days. While we do not understand what, if any, control the rulers of Chavín de Huántar exercised over the wider Andean world, it seems evident that the failure of Chavín influence was associated with political instability. In many areas of the coast and the highlands low-lying settlements were abandoned in favor of defensively positioned hilltop sites and construction efforts were focused on fortresses rather than temples. Whether such insecurity was a cause or an effect of the Chavín collapse remains to be determined. On the coast (particularly in the areas of the south that would give rise to the Moche) and in the highlands (particularly around the Lake Titicaca Basin of Bolivia and Peru) new political and cultural powers would emerge in the centuries that followed.

Lake Titicaca Basin: Chiripa and Pukara (1400–100 B.C.)

As Chavín de Huantar rose to prominence in the northern highlands, a separate cultural tradition developed around Lake Titicaca far to the south. Lake Titicaca is the world's highest navigable lake, and the largest in South America. The chilly plains of the landscape surrounding the lake were gradually transformed by ever more intensive agriculture and herding. Chiripa (1400–100 B.C.) is on the southern shore of Lake Titicaca, a fishing and fowling settlement, where farming and herding were integrated into much earlier hunter-gatherer traditions. Chiripa itself remained a small village until about 1000 B.C., when a platform mound was built in the community, then modified many times over the centuries. The platform itself was stone-faced with a sunken square court surrounded by rectangular buildings on the summit.

Between 600 and 100 B.C., the Chiripa platform was enlarged until it measured 55 meters (180 feet) square and 6 meters (20 feet) high. The stone-faced sunken court was 23 meters (75 feet) square and 1.5 meters (5 feet) deep. Carved stone plaques set into the walls depicted serpents, animals, and humans, the earliest appearance of a stone-carving tradition that persisted along the shores of the lake for many centuries. Sixteen rectangular buildings surrounded the court. Many features of the Chiripa shrine, especially the stepped doorways, sunken courts, and niche-like windows, are clearly ancestral to the later Tiwanaku architectural tradition, which used the same devices for its ceremonial architecture (see Figure 19.9). The religious beliefs associated with this architecture have been grouped under the Yaya-Mama Religious Tradition, which flourished for many centuries.

Chiripa developed at a time of intensifying competition between autonomous, permanent settlements located in resource-rich areas of the Titicaca Basin. Competition and interaction between them intensified in an increasingly volatile political landscape. Warfare erupted, militarism became more honored, as part of a lengthy process of consolidation and great political and social complexity. About 2,000 years ago, several large regional centers developed in the northern Basin, among them were Pukara and Taraco. Late Yaya-Mama style stone monoliths (c. 200 B.C.–A.D. 200/300) were massive and carved with animals, geometric designs in low relief, while human figures were caved in the round. The largest of these was from a site called Arapa, lying between Pucara and the lake. It measured about 6 meters (20

feet) in length and weighed nearly 2,300 kilograms (5071 lbs). These developments presaged the appearance of the Tiwanaku state and its art styles during the first millennium A.D., which would eclipse Pukara. After the decline of Pukara era society, the lower half of the Thunderbolt Stela was hauled south 212 kilometers (132 miles) from Arapa to Tiwanaku where it was set into the walls of the Putuni palace (see Chapter 19).

The Coast: Paracas Culture (c. 800–100 B.C.)

By 1200 B.C., ceramics, woven textiles, and irrigation agriculture spread from the Titicaca region to the south coast, where human populations were much smaller. The subsequent Paracas culture of the south coast was partially influenced by Chavín culture but developed its own distinctive art styles, reflected mainly in its fine, embroidered textiles (Figure 18.6). The term *Paracas* refers both to a distinctive pottery style and also generically to a southerly coastal society of some complexity, best known from a large cemetery on the Paracas Peninsula. Hundreds of well-to-do people were buried in the necropolis, their bodies bound with cord into a flexed or seated position and then covered with textiles and set upright in large, shallow baskets that contained richly adorned garments and other offerings. Basket and mummy were then wrapped in plain cotton cloth to form a large bundle, which was placed in a subterranean crypt next to the bodies of as many as forty others, presumably relatives. Interestingly, some of the Paracas people had undergone cranial surgery. Their skulls display evidence of trephination, a procedure used to treat tumors by removing portions of the skull or drilling through the cranium. The arid environment has preserved more garments and textiles there than at any other Andean site, revealing superb artistry in alpaca wool and cotton (for Andean textiles, see Box 18.1).

FIGURE 18.6 A shaman figure and other anthropomorphic beings on a Paracas woolen cloth, c. 500 B.C. DEA/G. Dagli Orti/De Agostini/Getty Images.

Paracas is somewhat of an enigma, for we have no means of assessing the true complexity of this southern coastal society. Judging from the rich adornment of the Paracas burials and their subterranean crypts, some families may have achieved an elite status, as if political power and high status were inherited in some communities, even if elaborately decorated burials are relatively rare.

By 2,000 years ago, a diverse patchwork of Andean kingdoms flourished in both highlands and along the coast. They shared some common religious beliefs and ideologies, reflected in the archaeological record by similarities in

art styles, architecture, and artifacts. A complex web of interconnectedness linked coast and highlands, an interconnectedness that became all-important in later centuries, as we see in Chapter 19.

Summary

The roots of Andean civilization lie in ancient hunter-gatherer societies along the Pacific coast and in the highlands, dating to at least 5000 B.C. Coastal civilization is thought by Michael Moseley to have had a strong maritime foundation for the exceptional marine resources enabled the support of larger-than-average sedentary populations. However, recent research has shown that a wide array of domesticated plants provided staple crops to complement marine resources along the coast by 3000 B.C. Large ceremonial centers like Caral developed on some parts of the Peruvian coast after 3000 B.C. Later shrines, like El Paraíso, with their U-shaped precincts, suggest that a common religious ideology linked much of the northern Andean region between 2000 and 1000 B.C. This Initial Period was one of continuous interaction and trade between coast and highlands. The growth of social complexity, new art traditions, and monumental architecture coincided with the appearance of several small kingdoms along the north coast. The culmination of this trend is seen in various local traditions, among them the famous Chavín style, perhaps the manifestation of an important religious cult that spread widely. In the Lake Titicaca Basin, small-scale polities developed into increasingly large kingdoms, eventually culminating in highland civilizations.

Note

1. The general terminological framework for Andean archaeology varies among researchers. We have adopted what appears to be the most commonly used today, preferring the term Preceramic to Archaic.

CHAPTER 19

Andean States (200 B.C.–A.D. 1534)

FIGURE 19.0 A stirrup spout portrait vessel depicting an elite member of Moche society. DEA/G.Dagli Orti/De Agostini/Getty Images.

The llama train walks steadily up the steep incline, zigzagging along the rugged mountain face, their drivers urging on the laden beasts with sticks. Each carries a pungent load of fish meal, tied in coarse fiber sacks. Their owners are oblivious to the smell as the llamas walk sure-footedly along the narrow track, dense mist swirling at their feet. Then, suddenly, a cry from the head of the caravan brings everyone to a halt. Cursing, the drivers urge their animals against the hillside. An Inka runner trots around the corner ahead, steadying himself on the bend but keeping up a stiff pace. He raises a hand as he lopes on, never slacking his speed, his destination the tiny government rest house 2,000 feet down the mountain. The drivers watch him incuriously for royal dispatches flow up and down the mountain pass every day, regardless of the weather.

CHAPTER OUTLINE

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Huaca del Sol and Moche Labor
Huaca de la Luna and Moche Sacrifice
Warrior-Priests and Priestesses: Royal Burials
Moche Metallurgy
Moche Society
Collapse
Southern Pole: Nasca (A.D. 100–C. A.D. 700)
The Nasca Lines
The Middle Horizon: The First Highland States (A.D. 600–1000)
Cooperation and Competition: Pukara and Taraco
Tiwanaku (A.D. 500–1000)
Wari (A.D. 500–850)
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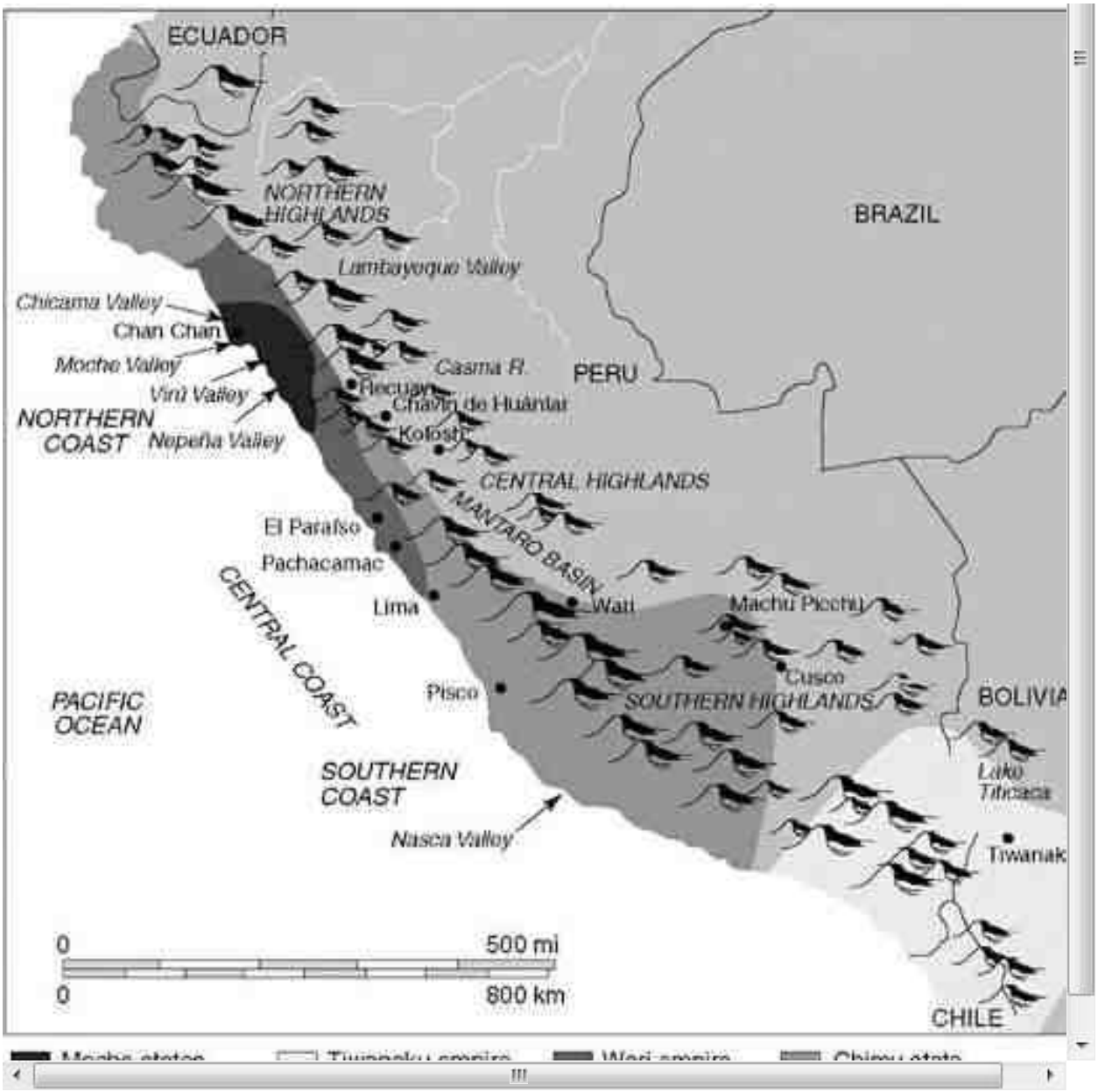
Sicán (c. A.D. 700–1375)
Chimor—The Chimú State (A.D. 1100–1400)
The Late Horizon: The Inka Empire (A.D. 1476–1534)
Origins
Split Inheritance and Conquest
Cusco and Tiwantinsuyu: Linking the Center to the Four Quarters
An Empire in Trouble and the Spanish Conquest (A.D. 1532–1534)

In A.D. 1532, the Inka Empire, called Tawantinsuyu by its rulers in the Quechua language, controlled the lives of over 6 million people. This extraordinary domain extended from modern Colombia in the north to Argentina and Chile in the south. It spanned landscapes that included the highest permanent settlements in the world in the chilly Andean highlands, and dipped to the lowlands of the Amazon River Basin in the east. To the west the empire encompassed the globe's driest deserts, punctuated by rivers that flowed along fertile channels into the Pacific Ocean. The Inka, like the Aztec of Mesoamerica, Rome in the Mediterranean, or the Zhou dynasty of China, expanded through military might and promulgated an imperial ideology that sought to substantiate that expansion as the natural outcome of

historical processes and divine support. Inka nobles felt that civilization was invented at Cusco and spread from there throughout the Andes. Civilizations that had existed before their great conquests were self-evidently leading to the rise of the Inka state. Even as they expanded to envelope other mighty states like that of the Chimu on the coast, Inka propagandists wrote history to promote their own self-image. Yet, even they revered the silent ruins of the great city of Tiwanaku on the shore of Lake Titicaca, said to have been built by giants turned into stone by the Inka god Viracocha before he created people. Tiwanaku in the highlands, and Chan Chan and Pachacamac on the coast are just some of the Precolumbian cities that give the lie to official Inka histories, for powerful states and empires flourished throughout the Andean region while Cusco itself was still a small village. This chapter tells the story of these early Andean states, which in turn developed from earlier kingdoms described in the previous chapter (Figure 19.1; see also Table 18.1).

FIGURE 19.1 Map of archaeological sites and states.



THE EARLY INTERMEDIATE PERIOD (200 B.C.–A.D. 600)

As covered in Chapter 18, Andean civilization has a deep origin story, one that grows older with frequent new discoveries that push back the history of monumental architecture and tools of the state. By 200 B.C., Andean civilization was booming at the northern and southern poles of the region, with steadily rising populations supported by extensive trade, and investments by well-organized labor forces. Workers expanded irrigation systems that supplied the life-giving water of the narrow coastal rivers to

bring life to the surrounding deserts. Ritual and economic inequality that had been evident in Chavín society was amplified, and some rulers became essentially semi-divine beings and the unique mediators with gods, supported by creation myths that separated them from everyone else and allowed them to rule by divine right.

A series of brilliant states flourished on the coast and in the highlands during the Early Intermediate period: Moche on the northern coast, Nasca in the south, and Recuay and Pukara in the highlands, to mention only a few. We can only describe a few of them here. All of them were different, developing along distinct trajectories. Just as in Mesopotamia, Mesoamerica, and elsewhere, none of them came into being as the result of a simple, linear process, with the growth of a single major center. The process unfolded in stops and starts in different regions rather than at specific locations. Each developed as a result of complex interactions between small polities that we would be hesitant to call states, which flourished over wider landscapes. These dealings were often intensive, involving both trade and warfare. There were periods of vigorous competition, and long intervals of cooperation and alliance, which led to the emergence of more complex political systems and expansive states within landscapes initially occupied by small, competing chiefdoms.

Individuals and groups responded to changes in the natural, cultural, and economic landscape that created new opportunities for cooperation that had previously been impossible. Warfare could be risky business. Loss in battle meant not merely death and injury for the combatants, but also the possibility for leaders of losing the perception, and thus the reality, of their power to rule. Violence was not the basis of statecraft despite its prominence in some artistic representations. Close analysis of burials during periods of Inka expansion, for instance, reveals injuries from warfare to be the result of intermittent and targeted violence, not a general state of ceaseless conflict. Available technologies meant that all combatants had access to a similar array of weaponry and armor, with no obvious technological advantage. Success on the battlefield was far from assured. Even highly organized societies could be thwarted by seemingly less-powerful enemies, as the Inka would later find in their attempts to expand into territories controlled by the Mapuche and other non-state societies. But well-organized, cooperative groups in areas of high population densities had the advantage of greater resources to support extended or multiple conflicts, and to protect themselves

from assault. Those polities that could successfully raid neighboring chiefdoms might find themselves with additional labor and products that warranted the risk.

NORTH COAST: MOCHE CIVILIZATION (A.D. 100–700)

Moche Origins and Political Organization

In general terms, Moche culture and society can trace its origins back to earlier coastal traditions as well as ties to the upland Chavín. The Moche were not a singular cultural and political entity, but rather a cultural and political phenomenon that spread over much of the north coast of Peru in the first millennium A.D. Imposing adobe constructions like Huaca de la Luna and Huaca del Sol of the Moche site are among the largest Precolumbian structures ever built and, together with the vibrant pottery and gorgeous metalwork that emerged from looted tombs, suggested to early scholars a powerful and centralized state that spread its rule over much of Peru's coast. Research over the past century, however, has transformed our understanding of the Moche. We now know the Moche not as a unitary state but rather a suite of religious traditions, cultural symbols, and material styles evident across sites on the Peruvian coast. Precisely how the people of different Moche sites related to one another, and how these communities may, or may not, have been politically integrated is at the heart of archaeological debate.

Using well-preserved ceramics from burials on Peru's north coast, archaeologist Rafael Larco Hoyle created a long cultural sequence that linked societies contemporary with Sechín Alto (see Chapter 18) to the appearance of Moche (also called Mochica) states in about A.D. 100. The Moche culture represents a highly successful adaptation to the arid coastal environment using a combination of maritime resources and advanced irrigation agriculture drawing on the rivers that flowed down from the Andes and west across the desert into the sea. Yet, in recent years, it has become evident that while Larco Hoyle's ceramic sequence identified a critically important development in coastal Peru, it also masks a complicated process of political development that differentially transformed small kingdoms across many river valleys and adjacent uplands. As populations grew and limited farming land was taken up, competition for arable territory intensified and the cost of

exploiting marginal acreage, including the need to extend irrigation systems, rose.

The development of better, more reliable irrigation technologies led to the extension of cultivated lands. The increased food surpluses created opportunities for personal enrichment and political control in the hands of a new and wealthier elite. Social inequality developed; ceremonialism, a need for larger public buildings and ceremonial centers and more elaborate ritual objects followed. All of these developments manifested themselves in distinctive ideologies that linked a small, ruling elite with the forces and otherworldly beings believed to govern nature. This increasingly wealthy and powerful elite organized communities for the construction of large valley-neck irrigation canals, opening up the lower floodplains to both intensive farming and human settlement. The small hamlets and villages of earlier times gave way to hierarchies of much larger communities, dominated by single primary centers of exceptional size. While commoners lived in simple houses with stone foundations and cane walls, the elite built residences of adobe brick, the same material used to fashion public buildings.

Moche seafaring canoes established a presence on more than thirty offshore islands, as far south as the southern Chincha Islands, where they mined guano as fertilizer, a resource so important to agricultural output that it would become a state monopoly in later periods. Where possible, the Moche extended their ambitious irrigation schemes to link several neighboring valleys; they then constructed lesser copies of their capitals as a basis for secure administration of their domains. Traders were in touch with people far to the north and on the highlands and with Nasca on the south coast.

The Moche and adjacent Chicama River valleys near modern Trujillo, Peru are in some sense a heartland of Moche culture. Sites like El Brujo in the Chicama Valley and Huacas de Moche in the Moche Valley share close styles of architecture, pottery, and nearly identical programs of murals in their major temples. Around A.D. 300–400, the southern Moche system spread out of from the Moche River valley into the Chicama River valley to the north and the Viru and Santa River valleys to the south. In their earliest phases, Moche religious practice seems to have focused on the construction and use of large temple platforms where priests or priestesses reigned over ceremonies that included human sacrifice. Beginning around the seventh century A.D., however, there is evidence for greater public involvement and feasting in open areas.

As the Moche phenomenon spread from valley to valley, it did not necessarily replace existing cultures. For much of the twentieth century, archaeologists believed that non-Moche ceramic types found at many sites predated and were replaced by the Moche style pottery. Much of that research, though, relied on heavily looted sites and ceramics from museum collections that lacked good archaeological context. As the number of controlled, well-documented excavations by archaeologists in the Moche region has increased in recent decades, it has allowed for reassessments and re-dating of pottery chronologies. It is now evident that local pottery types continued to be made and used side by side with the Moche pottery, and there is significant variation in the Moche pottery styles and chronologies found at different sites.

There are three broad ideas about the nature of the Moche that find support in the current literature. All swirl around the form and extent of political control. First is the oldest vision of the Moche, in which an expansive Moche state centered on the Huacas de Moche conquered and controlled the valleys to the north and south of it. Some archaeologists argue, however, that there are instead two different kinds of Moche states—the Northern and the Southern Moche, with the regions separated by an expansive desert called the Pampa de Paiján. Differences in ceramic styles and architectural patterns distinguish the Northern from the Southern Moche. The argument goes that places like Sipán, Pampa Grande, or San José de Moro functioned as the capitals of small states centered on individual river valleys. In contrast, there was a more singular Southern Moche state centered on the Huacas de Moche that bridged multiple river valleys.

FIGURE 19.2 The Huaca del Sol (Temple of the Sun) at the ancient city of Huacas de Moche. De Agostini/Getty Images.

Finally, ongoing research in the Southern Moche region, which once seemed a more unified cultural and political zone, has led some archaeologists to the conclusion that this was a more fractious political and cultural landscape than had been imagined. From this perspective, all of the kingdoms in the north and the south were relatively small. Like the Classic period Maya kingdoms of Mesoamerica, some Moche states may have conquered their neighbors, but none represented a true center of Moche politics or culture. Which of these models is correct remains the subject of ongoing debate and research.

Huaca del Sol and Moche Labor

The ancient city of Huacas de Moche (or simply Moche) thrived from A.D. 100 to 850, in the desert fringe surrounding the Moche River, 6 kilometers

(3.5 miles) inland from the Pacific Ocean and backed by the 500 meters (1650 feet) Cerro Blanco. Two massive adobe brick platforms, separated by a 500-meter-wide plaza, dominate the site today as they did in the past. On the southeast of the plaza is the Huaca de la Luna ("Temple of the Moon"), and on the northwest the Huaca del Sol ("Temple of the Sun"). Less apparent to the modern visitor are the low residential buildings that make up the urban core within and surrounding the ceremonial center of a city whose population was between 15,000 and 25,000.

The architectural blocks have passages, sleeping areas, kitchens, and all the storage areas for food and commerce required of a vibrant city. Most people lived outside the ceremonial center, and while some of the deceased were buried beneath the floors of their homes, many were buried in large cemeteries that have been heavily looted. The oxygen isotope ratios present in the teeth and bones of all of the excavated burials at Huacas de Moche indicate that most men were locally born and raised. Women, however, often arrived later in life from the valleys to the north of Moche, probably through relocation for marriage. Such marriages with women from outside local social groups—exogamous marriages in terms of anthropology—would have helped to formulate political or economic alliances with other communities. This urban architecture is cross-cut by canal systems and roads. Canals brought water to the town from the Moche River and irrigated crops including cotton, maize, peppers, peanuts, and more. The bounty of seafood from the Pacific, and food and other raw materials from the highlands of the Andes and the Amazonian lowlands beyond to the east supplemented local produce.

Looming over the city was the Huaca del Sol, built and in use from A.D. 600 to 850. Once one of the largest constructions of native America, its builders used an estimated 130 million adobe blocks in raising the huaca. What remains today stands 40 meters (130 feet) above the desert surface, and the platform originally extended over some 340 × 160 meters (1,100 × 525 feet). Sadly, early Spanish colonists destroyed more than one-half of the huaca by redirecting the Moche River to wash away the adobe, gutting the platform in the hunt for the gold that they believed buried inside it.

It is not just the size of the Huaca del Sol that tells us about the Moche state, it is also the form of all those abode bricks. Impressed on nearly every adobes are symbols placed there by the brick makers. Scholars have identified more than a hundred unique symbols, which are likely "maker's

marks," identifying the producers. As the adobes were piled into the Huaca del Sol and de la Luna, they were placed in distinct columns, each such segment containing bricks marked by a single maker's mark. Some maker's marks appear in multiple columns, some only once. This pattern has led many archaeologists to argue that each column represents the product of labor tax on the Moche population. The argument goes that each tax-paying group (whether organized by families, neighborhoods, or other means we cannot yet say) marked the bricks it produced and added to the construction effort as proof of payment.

The much later Inka state employed a well-documented system of labor tax known as *mit'a*. Our understandings of the Inka practice of mit'a are suggestive of similar practices at the Huacas de Moche, but we do not know what term the Moche used or precisely how such labor may have been organized and integrated into their kingdoms. In fact, segmented groupings of marked adobe bricks like those of the Huacas de Moche are found only at a few sites, and construction techniques vary greatly from site to site, or among buildings at the same site.

Huaca de la Luna and Moche Sacrifice

While the Huaca del Sol is a singular platform, the smaller Huaca de la Luna (30 meters/100 feet high) was a temple complex used from A.D. 100 to 600, and was composed of multiple smaller buildings topped by large plazas. The Moche adorned its abode walls with spectacular modeled reliefs of deities, captives, and other figures painted in bright colors preserved by the arid desert environment. Among the most significant discoveries from the Huaca de la Luna are the numerous sacrificial offerings of human and other animals.

In Plazas 3C and 3A, the skeletons of young males between 15 and 35 years of age were captives of war offered to the Moche gods as sacrificial offerings. Most of the skeletons exhibit bone fractures typical of close combat, and were probably tortured before their death. The sacrifices in Plaza 3C were deposited over a long period, from A.D. 200 to 550, based on radiocarbon dates taken from ropes and insects associated with the victims. It seems likely that they represent offerings associated with the intermittent remodeling of the temple. A minimum of 61 individuals have been found, represented by complete bodies, and pieces of bodies including articulated arms and legs, trunks separated from limbs, as well as hands, feet, and

individual bones. Archaeologists also uncovered broken vessels shaped like seated captives associated with the skeletons. Such patterns are typical of sacrifice evidenced at other Moche sites including Dos Cabezas, and Cao Viejo where male warriors were also tortured, sacrificed, and dismembered.

In contrast, approximately seventy-five individuals found in Plaza 3A were killed over a comparatively brief period in the mid-seventh century A.D. in what appear to be six distinct mass sacrifice events. These skeletons also show signs of violent injuries including fractured ribs, arms, and shoulders typical of battle. That they had survived these battles is clear, for the breaks were beginning to heal when they died. It seems probable that captors held these men prisoner for extended periods before cutting their throats, as often depicted in Moche pottery.

Those who sacrificed these captives did not bury the bodies in Plaza 3A, but rather left them exposed to the elements. In some cases, mud soon covered the remains, and sometimes they were buried in wind-blown sand. Such patterns of deposition suggest that the sacrifices took place in alternating periods of excessive rainfall and floods, and of drought, associated with shifting ENSO (El Niño-Southern Oscillation, often simply called El Niño in the popular media) events that ravaged the croplands of the Moche. The ritual practitioners of the Huaca de la Luna offered their sacrifices in an attempt to mitigate disasters seen as the product of otherworldly powers.

Who were these sacrificial victims? From the archaeological context alone, there is a strong suggestion that they were not beloved members of the local community. Comparison with Inka accounts is suggestive, for among the Inka we have records of the stripping, torture, and dismemberment of enemy bodies left unburied. In contrast, some local community members sacrificed during Inka rituals were adorned in finery and adored for their ritual role, while Inka warriors killed in battle were returned home to their families, mummified and treated with all due respect. Among the Moche, the skeletons of the Huaca de la Luna stand out in marked contrast to the fine burials lords and priestesses with their attendant sacrifices, or even the bodies of community members treated reverently and buried in cemeteries.

If not members of the local community, where did the sacrificial victims of the Huaca de la Luna come from? Different populations of people have distinct patterns in the physical traits of their teeth, and when compared to dental forms from across Peru the young men from the Huaca de la Luna

appear not to be locals. Testing of mtDNA extracted from the teeth points to significant gene flow between populations on the north coast, and the earliest sacrifices of Plaza 3C were more genetically similar to one another and to the local population than the bodies found in Plaza 3A. The victims in Plaza 3A have oxygen isotope ratios in their teeth that indicate they were born elsewhere, but their bones have local oxygen isotope ratios meaning they had moved to Moche some years before their deaths.

Warrior-Priests and Priestesses: Royal Burials

Despite a long history of excavation at Moche sites, until relatively recently no royal tomb had been scientifically dug by archaeologists. Instead, fueled by an international art market, and the need for local income in Peruvian communities, Moche metalwork, textiles, and pottery were looted from burials and found their way into museum collections worldwide. Such finery suggested great social inequality and political hierarchy indicated by the dramatic differences in the investment in wealth associated with the burials of a select subset of society, but we lacked archaeological context. This situation changed in 1987, when looters at work at the site of Sipán in the Lamabyeque River valley uncovered a treasure trove of tomb goods in the Huaca Rajada, destroying pottery and human remains in search of metalwork. On this occasion, however, Peruvian archaeologist Walter Alva, with the support of the police force, was able to reclaim the site from looters and begin scientific excavations. Over time, Alva and colleagues excavated more than a dozen tombs at Sipán, though it took Peruvian authorities a long time to deter looters, eager to get back their treasures, from attacking the archaeologists. In that first tomb was the so-called Lord of Sipán, who died between the ages of 35 and 45 years. He would have stood about 1.60 meters (5 feet 2 inches) in life, and in death he was draped in metal—a mix of gold, silver, and copper with valuable stone incrustations—including a mask, headdress, chest-piece, necklaces, and rings in his ears and nose.

In all, more than 400 objects of finery of all kinds filled the tomb, with a sacrificed dog and a llama also included among the offerings. Nearly every artifact buried with the warrior-priests had intense symbolism. For example, the lords wore gold on the right and silver on the left, representing the duality of moon and sun. Depictions of ullucu fruit in gold and silver may reflect their use during human sacrifices; they contain anticoagulants, perhaps used

to prevent blood from congealing during the ceremony. The tomb was an elaborate, multilayered affair neatly constructed within the abobe blocks of the huaca in which it was found. At the center was the Lord of Sipán himself, laid to rest in a coffin, and accompanied in surrounding coffins by three women, two men, and a child. The women may have been wives of the lord, while the men are believed to be warriors. Two of the men were missing their feet, why we do not know, while a third man originally sat atop the burial chamber guarding the figures beneath. The child was perhaps ten years old, too young to know if this was a boy or a girl from the skeleton. The tomb of the Lord of Sipán, and the other tombs that archaeologists subsequently found at the site provided a more detailed glimpse into the political hierarchy and economic life of Moche cities and their rulers.

FIGURE 19.3 Reconstruction of Tomb 1 at Sipán, showing the lord in his regalia set in his coffin, also male and female attendants. Werner Forman/Universal Images Group/Getty Images.

The burial platform had been rebuilt six times between the first century A.D. and about A.D. 300. Alva subsequently excavated three additional royal burials at Sipán, graves awash in gold, silver, and copper. Each Moche lord was caparisoned in his full ceremonial regalia, wearing headdress and backflap, necklaces, and elaborate tunics. One burial chamber contained a plank coffin that held the extended skeleton of a man in his thirties lying on his back with his arms along his sides (see Figure 19.3 and Box 19.1). He wore gold nose and ear ornaments, gold and turquoise bead bracelets, and copper sandals. A ceremonial rattle, crescent-shaped knives, scepters, spears, and exotic seashells surrounded the body. Three young women, each about eighteen years old, lay at the head and foot of the coffin, and two males in their mid-thirties were on either side. A dog, two sacrificial llamas, and hundreds of clay vessels were also in the grave.

Box 19.1 Discoveries *The Lords (and Ladies) of the Moche*

Who were the Moche rulers? Clearly, they were nobles, but what was their role in society? The Moche had no writing, so there are no histories to identify the wealthy and powerful men and women encountered in tombs. The Moche, though, are renowned for their representational pottery, and in particular the highly decorated stirrup-spouted pots that can be found on display in many museums around the world (see Figure 19.0). Ornately decorated jars depict warriors, priests, rulers, anglers, wildlife, and ritual sacrifices. Their painted, modeled, and carved images of myth, daily life, and sexuality have long enthralled, titillated, and embarrassed museum goers. Most strikingly, virtually unique among indigenous cultures of South America, Moche artists created lifelike portraits modeled and carved from richly painted clay. Across the centuries, these noble depictions still smile or sternly glare at us, giving us a glimpse of faces otherwise lost. In some cases, the pots depict injuries, diseases, or paralysis of facial muscles that must have afflicted the subject in life. In other examples, researchers suggest that multiple pots depict the same individual at different points in his life with the identity discernible from distinct facial scars or even hairstyles. We can see people age from youth to old, and from noble warrior to dejected prisoner. Unfortunately, because most examples of Moche pottery now in museum collections were looted, we again lack the archaeological context to connect the portraits with the burials and bodies with which they were interred.

Nonetheless, in an ingenious and convincing use of indirect evidence, Christopher Donnan has “unrolled” dozens of intricate scenes painted on Moche vessels in an attempt to decode their society and its religious beliefs. Among the most famous of these narratives are the presentation scenes, in which bound captives are paraded naked in front of their captors who are seated atop large, ornate platforms. The captives in these scenes have their throats cut in a ceremony presided over by a priestess with a distinctive headdress and facial paint, who collects the blood in a goblet and conveys it to another figure. Donnan originally inferred that the most important participant in the sacrificial ceremonies was a “warrior-priest” who received this goblet, wearing a conical helmet with a crescent-shaped headdress, circular ear ornaments, and a crescent-like nose ornament, much like the Lords of Sipán (Figure 19.4). However, recent research suggests that the so-called priestesses may

also be female rulers. The importance of women as figures with significant religious, social, and political power in Moche society finds material evidence in excavations at the Northern Moche site of San Jose de Moro. Since 1991, archaeologists have uncovered the lavish burials of several women, many buried with the same headdresses and the sacrificial goblets in which blood was collected.

Among the earliest of these burials, the so-called “First Priestess” was a woman 30–40 years old, buried in a cane coffin covered with copper discs and decorated with metal limbs, mask, and headdress to recreate her image. Five other women were arrayed about her coffin, likely retainers sacrificed to accompany the priestess into the afterlife. Other offerings included spondylus shell necklaces, metal objects, and pottery including Moche stirrup pots as well as imported vessels in foreign styles. At least seven other tombs of priestesses have been identified at San Jose de Moro. This was not a short-term phenomenon, rather such priestly women continued to represent important figures over a period of centuries, into the ninth century A.D. beyond the end of the Moche civilization. Neither was the elevated position of women unique to the Northern Moche, as elaborate tombs for women rulers or priestesses have been found at Southern Moche sites, including the “Señora de Cao” (Lady of Cao) who died around A.D. 450, perhaps from complications of pregnancy or childbirth, and was discovered in 2005 at the site of El Brujo near Trujillo. Her hair and skin, with elaborate tattoos, were amazingly preserved by the dry desert environment, and she was adorned with all the metalwork and objects associated with rulership in other tombs and shown on Moche pottery. There can be little doubt of her status in Moche society.

FIGURE 19.4 A Moche lord presides over a parade of prisoners who are being sacrificed: frieze from a painted pot “unrolled” photographically. Donna McClelland. The Christopher B. Donnan and Donna McClelland Moche Archive, Image Collections and Fieldwork Archives, Dumbarton Oaks, Trustees for Harvard University, Washington, DC.

FIGURE 19.5 A golden ear ornament worn by a lord of Sipán, inlaid with turquoise. The warrior at center wears a ceremonial headdress and an owl's head necklace. He is accompanied by two attendants. Frans Lemmens/Alamy.

In 1998 and 1999, a team led by Christopher Donnan unearthed a further set of royal burials at Dos Cabezas in the lower Lambayeque Valley, those of five unusually tall young men, surrounded by textiles, ceramics, llama skeletons, and fine metalwork. None of them was aged more than twenty-two. Their exceptional stature may be the result of a genetic bone disorder, similar to modern-day Marfan syndrome, which produces people with unusually long legs (Box 19.2). Subsequent discoveries at sites such as El Brujo made clear that women were also the subject of veneration in such tombs (Box 19.1). Clearly, the Lords and Ladies of Sipan and their peers at Dos Cabezas, El Brujo, and other Moche cities were individuals of great importance in society. Archaeologist Christopher Donnan's work demonstrated the relationship between the individuals and artifacts from the sepulchers with paintings on Moche pots. It seems clear that these warrior-priests and priestesses were at the pinnacle of Moche's elite hierarchy, and enjoyed immense political and spiritual power.

Box 19.2 Sites *Moche Burials at Dos Cabezas*

Dos Cabezas lies in Peru's lower Jequetepeque Valley, a 32-meter-high (105-foot-high) Moche pyramid close to the river mouth at the Pacific Ocean (Figure 19.6) Three richly decorated Moche nobles' tombs dating to A.D. 450–550 were excavated from the south side of the pyramid between 1997 and 1999. Each contained a small copper statue depicting the deceased, who were remarkable for their exceptional stature. Average Moche males stood between about 4 feet 10 inches and 5 feet 4 inches in height. The Dos Cabezas men towered between 5 feet 9 inches and 6 feet and died between the ages of eighteen and twenty-two years. Biological anthropologists suspect that they may have suffered from a genetic disorder like Marfan syndrome, which causes thin, elongated bones.

FIGURE 19.6 The huaca at Dos Cabezas in the Jequetepeque Valley, where royal burials were excavated. Kenneth Garrett.

The three appear to have died within a few weeks of one another. The most important of the three men lay in Tomb 2, cocooned in clay and wrapped in textiles together with his ceremonial possessions. He was buried with an exquisite ceramic bat, a sacred animal to the Moche, in a headdress adorned with gilded copper bats, and a nose ornament of solid gold also modeled in the form of a bat. Bats were prominent in Moche ritual, usually appearing in scenes of human sacrifice and ritual blood drinking depicted on painted pots. The man wore a copper funerary mask with shell eyes, golden eyebrows, and nose ornament, with beardlike bangles. He was buried with numerous clay vessels, gold and silver nose ornaments, and eighteen headdresses. He wore a tunic adorned with a cloth human figure with gilded head, hands, and feet. He held chisels used in metalworking and lay with a funerary bundle crammed with war clubs, spear-throwers, and gold-plated shields. A young man, also wrapped in textiles, lay beneath him, perhaps a relative.

Sacrificial offerings, a llama and a young woman, lay at a slightly higher level (Figure 19.7). All three tombs boasted of a small compartment nearby that was a model of the burial chamber, a feature unlike Dos Cabezas. Burials 1 and 3 were less-elaborately decorated, those of men of presumed lesser importance to the individual in Tomb 2. Each lay with a female sacrificial victim and fine clay vessels. Tomb 3 also contained the body of a nine-year-old child. The excavators believe that the three men were related to one another, but their exact role in early Moche society remains a mystery. Were they warrior-priests, like the later Sipán lords, or was the man in Tomb 1 a metalsmith, a valued skill in Moche society? Much remains to be understood about the social roles of these individuals.

FIGURE 19.7 Blowing fine dust off the funerary bundle of a noble buried with a llama head and fine ceramics at Dos Cabezas. Danita Delimont/ Alamy Stock Photo.

Moche Metallurgy

Serving the needs of a growing number of powerful elites, Moche smiths improved upon existing metalworking techniques, and innovated an array of technologies to produce objects of startling beauty. Hammered goldwork had been produced in the Andes for millennia, but copper-silver and copper-arsenic (bronze) alloys appeared in northern Peru between A.D. 200 and 800. While modern notions of value may favor the chemical purity and shining luster of 24-carat gold or sterling silver, Moche smiths were concerned with creating a range of colors, and used an array of alloys together with chemical plating and surface treatments to achieve a spectrum ranging from warm, red coppers to mirrored silver and brilliant gold.

Most famously, they created tumbaga, an alloy that could be mostly gold or mostly copper, often with trace amounts of silver. Objects cast from tumbaga would initially have had a reddish hue more closely resembling copper than gold. Andean smiths, however, used a process called depletion gilding to craft a metal that appeared for all the world like pure gold. To achieve this, tumbaga objects were burned to create a crust of oxidized copper at the surface. This crust could then be removed using corrosive chemicals and polishing—depleting the copper and silver at the surface and leaving behind only gold which could then be polished to a high sheen. The golden appearance, and largely copper content, of Andean tumbaga would later frustrate Spanish Conquistadors who melted down whatever metalwork they could gather in the hunt for pure gold.

Smiths of the Moche culture at sites like Loma Negra on Peru's North Coast had also developed electrochemical plating during the first millennium A.D. By heating copper or bronze objects and immersing them into hot liquid solutions of gold or silver combined with locally available corrosive chemical salts, craftspeople could produce microscopically thin layers of precious metals shining on the surface of what were largely copper objects. Lost wax casting allowed for the production of three-dimensional figures that were sometimes inlaid with turquoise. Hammering and embossing permitted for delicate raised decorations on the surface of metal sheets, which artisans then annealed (heating and then rapidly cooling beaten metal), bent, and soldered crowns, necklaces, pins, and tweezers of the utmost quality. Metalwork also served as a setting for mosaic turquoise and shell ornaments. Moche metalwork from sites like Loma Negra or the tombs of Sipan continues to

astound museum goers with the spectacular golden costumes of Moche lords, and the subtle and delicate beauty of small gold and silver figurines, crowns, circlets, necklaces, pins, and tweezers. Not all metal was decorative, though, and the Moche also made use of copper and bronze spears, digging sticks for planting crops, fishhooks, and chisels.

Moche Society

We do not know all the details concerning how Moche society was organized, but we can infer from burials and imagery already discussed that male and female rulers wielded authority over a hierarchical state of warriors, priest-doctors, artisans, commoners, and the poor among the largely agricultural and fishing population. Moche society was like all states complex and fissured by divisions based on gender, age, economic or other activity, kin ties, and social standing. The relatively few undisturbed burials excavated by archaeologists give us some insights, but even when looted the civilization's fantastic pottery, with its painted, modeled, and carved representations of myth, daily life, and frank sexuality, seems to draw us into the social life of Moche society. Spouted vessels show that a society consisted of farmers and fishermen, as well as skilled artisans, kings, queens, warriors, and priests with feline-like fangs, wearing puma skin headdresses.

Modeled warriors, complete with shields and war clubs, well-padded helmets, and colorful cotton uniforms, give us a glimpse of the martial side of Moche life. On painted vessels we see Moche soldiers in battle, charging their opponents with raised clubs. The defenders raise their feather-decked shields in defiance as the battle is fought to the death. As already mentioned, the end could be brutal, with captive forces tortured and sacrificed.

A few expert potters created superb modeled vessels with striking portraits of arrogant, handsome men who can only have been the elite of Moche society. Across the centuries, these noble depictions still smile or sternly glare at us, giving us a glimpse of faces otherwise lost. In some cases, the pots depict injuries, diseases, or paralysis of facial muscles that must have afflicted the subject in life. In other examples, researchers suggest that multiple pots depict the same individual at different points in his life with the identity discernible from distinct facial scars or even hairstyles. We can see people age from youth to senescence, and from noble warrior to dejected prisoner.

Moche artists allow us some more intimate glances at their society than do many civilizations. Depictions of homes were crafted to give us a glimpse of family domestic life. Potters modeled drunks befuddled by maize beer and supported by their solicitous friends; women giving birth, with the midwife in attendance; and wives carrying babies on their backs in shawls and in wooden cradles suspended by nets. More intimate displays depict human couples, individuals, supernaturals, skeletons, and animals engaged in a variety of sexual acts that have intrigued scholars, and shocked museum goers for many decades. We see men on a seal hunt, clubbing young seals on the rocky coast as their prey scurries in every direction. A clay llama strains reluctantly under its load, and a mouse eats a maize cob.

The pots vividly depict what the Moche people wore. The men worked in short loincloths or cotton breeches and short sleeveless shirts underneath tunics that ended above the knee, fastened around the waist with colorful woven belts. More important people wore large mantles and headdresses made from puma heads or feathers from the highland jungles of Ecuador and Amazonia. Nearly everyone donned some form of headgear: Brightly decorated cotton turbans wound around small caps and held in place with fabric chin straps were in common use. A small cloth protected the back of the neck from the burning sun. Moche women dressed in loose tunics that reached the knee and went bareheaded or draped a piece of cloth around their heads. Many men painted their lower legs and feet in bright colors and tattooed or daubed their faces with lines and other motifs. They often wore disk or crescent nose ornaments and cylindrical bar earrings, sometimes modeled in gold. Their necks bore large collars of stone beads or precious metal, and bracelets covered their arms and legs, while their feet were protected from the hot sand by fiber sandals.

Collapse

As in so many ancient societies, we cannot assign a single cause to the end of an identifiably Moche cultural and political phenomenon. The inhabitants of many sites did not abandon their towns and ceremonial centers, but rather transformed them, abandoning the architectural, ceramic, and other material styles that we identify as Moche. The collapse of Moche society was a complex, prolonged process that unfolded over some three centuries. Some factors may have been climatic or the result of natural catastrophe. Like all

Andean coastal societies, the Moche lived at the mercy of droughts and El Niños. Michael Moseley believes that a series of natural disasters struck Moche domains in the late sixth century. The first may have been a devastating drought cycle between 564 and 594, identified from the growth rings deep in mountain glaciers between Cusco and Lake Titicaca. Crop yields in some valleys may have fallen as much as 20 percent. Sometime between 650 and 700, a great earthquake struck the Andes, choking rivers with debris from landslides. Silt-laden floodwaters may have blocked irrigation canals, preventing water from reaching nearby fields. The silt flowed into the ocean, was washed ashore, and then blown inland by the prevailing winds to form huge sand dunes. Dense sandstorms may have blanketed entire villages and many acres of irrigated land.

The Huacas de Moche site shows evidence of flooding brought by the torrential downpours of an El Niño event just before A.D. 600, repaired, and then overwhelmed by coastal dunes that buried most of the city except the great huacas under fine sand. The same El Niño devastated the coastal fisheries—as cold currents are pushed out by warm during ENSO events, anchovy fisheries were likely devastated, even as torrential rains flooded the arid coastal plains, sweeping away entire villages and carefully maintained irrigation systems. Moche lords abandoned the Huacas de Moche, and moved northward to Pampa Grande in the Lambayeque Valley, more than 50 kilometers (30 miles) from the Pacific. But only half a century later another catastrophic El Niño descended on the coast again, and the houses of the Pampa Grande nobles were burned.

It may be that environmental instability caused a failure of confidence in Moche rulers or religious practice. However, dramatic environmental disturbances seem to have abated by the seventh century A.D., and many sites continued to thrive as the rainfall patterns stabilized. Intrusive new polities, particularly the rise of states like the highland Wari during the Middle Horizon (A.D. 600–1000), may have led to political and economic disruptions across the coast. At some sites, there is evidence for the construction of new fortifications in the seventh century, and at the site of San Jose de Moro it has been proposed that a hybrid Moche-Wari style of polychrome pottery was developed. Wari ceramics have also been found in burials at the Huacas de Moche. To date, however, significant evidence of Wari or other dramatic cultural impact or conflict that might be implicated in the decline of the Moche is sparse. What we can say is that by the ninth century, new political

centers and cultural patterns had emerged along the North Coast and the Moche phenomenon faded away.

SOUTHERN POLE: NASCA (A.D. 100–C. A.D. 700)

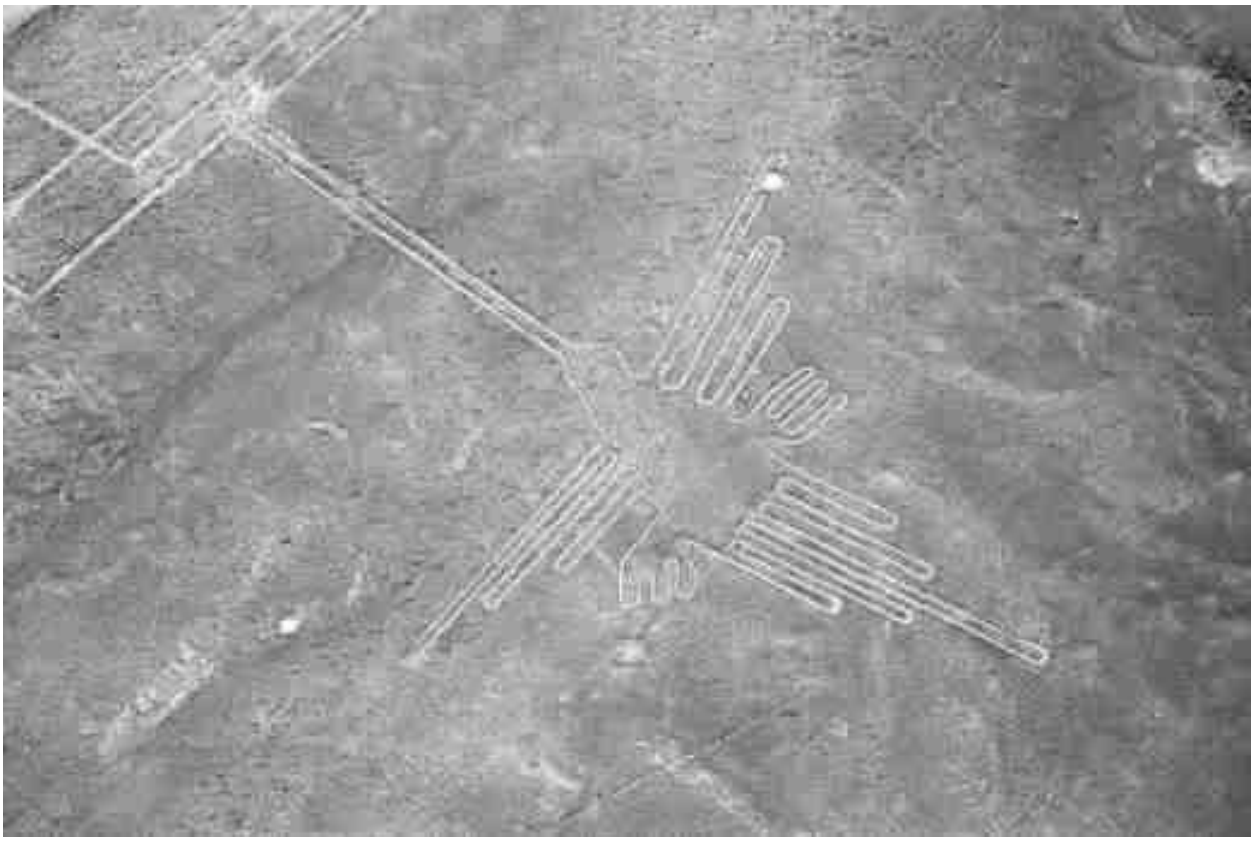
The south coast, with its smaller drainages and much sparser populations, saw the emergence of the Nasca state—perhaps best known for its famous geoglyphs and spectacular pottery, beautifully painted and shaped into double-spouted vessels with dramatic forms including whales, lobsters, and human warriors. Nasca culture was centered on the Ica and Nasca drainages with outliers from the Chincha to Acari valleys. The earliest phases date to about A.D. 100; the latest manifestations to about A.D. 600, or as much as a century later. At first, Nasca communities lived in "oases," terraced hillsides where surface runoff could be used for irrigation. But sometime after A.D. 500, perhaps in response to drought, the farmers tapped natural aquifers by digging ventilated tunnels, creating tunnel-fed farmlands (which were densely inhabited) out of formerly dry landscape.

Cahuachi, the largest Nasca pilgrimage center, was 50 kilometers (31 miles) inland, on the south bank of the Nasca River. It began life as a dispersed farming village but grew to become an important ceremonial center, covering about 150 hectares (370 acres). Archaeologist Helene Silverman believes Cahuachi was a unique ceremonial center of mounds, cemeteries, and shrines, the smaller ones kin-based. The Great Temple, a stepped platform 20 meters (66 feet) high capping a natural prominence—with a plaza, adobe rooms, and courts at the base—was the largest. With its natural springs, Cahuachi may have been a sacred place, but it was not a city in the classic sense of the term, although there must have been a considerable residential population, including craftspeople who manufactured ceramics. It was a location where offerings to the ancestors were made: Kin groups congregated at certain times in the sacred calendar for special ceremonies honoring their forebears. Nasca art from the site and other locations emphasizes masked ritual performances by priests and many mythical beings. Silverman and others believe many of the rituals at Cahuachi were connected with rain, water, and fertility. There are signs of human heads as valued trophies, too. Eventually building at Cahuachi virtually ceased as it became a vast cemetery and a place for votive offerings.

The Nasca Lines

Etched across the desert of the Nasca Valley ~350 kilometer (220 miles) southeast of the modern capital of Lima, Peru are the Nasca lines and geoglyphs (Figure 19.8). The Nasca figures have been known to Europeans since the late sixteenth century A.D., but were largely ignored until the early twentieth century when they were formally reported by Peruvian archaeologists. There are other geoglyphs scattered around Peru and Chile, but the Nasca lines are unusual for the great quantity and diversity of forms concentrated in an area of ~500 square kilometers (200 square miles). Armed with aerial photographs and even satellite images, astronomer-archaeologists have now pored over the Pampa de Ingenio with all the armory of modern science. Their photographs reveal not only geometric figures but also more than 1,300 kilometers (800 miles) of straight lines, some as much as 20 kilometers (12 miles) long. Some radiate from hills, interconnected by more linear marks, which lead to well-watered areas and may have served as pathways. All the drawings were of transitory importance, for many figures were drawn across earlier ones, as if they were no longer important. To judge from the style of figural images depicting plants and animals, as well as a wooden post found in one line and radiocarbon dated to ~ A.D. 525, most of the geoglyphs were made by people of the Nasca culture, which thrived from about 200 B.C. to A.D. 600 as a contemporary of the Moche civilization. Nonetheless, some of the figures postdate the Nasca culture and some may have been made as early as 500 B.C.

FIGURE 19.8 Nasca lines (geoglyphs), scratched out in the desert plain in the form of lines, some representing birds and other symbols. Jesse Kraft/Alamy Stock Photo.



There is a popular misconception that the lines are visible only from the air, and could not therefore have been made by a people like the Nasca without air travel. The truth is that they are largely visible on the ground or with a short climb to the hills above the desert, and they were laid out by sighting between two stakes at ground level. The designs were made primarily by moving darker surface rocks aside to reveal the contrasting lighter sand. For some of the lines shallow trenches no more than 10 or 15 centimeters (4 or 6 inches) were dug into the sand. So fragile are these figures that disturbance by the tires of modern motor vehicles can easily destroy them, and sadly such incidents have marred several of them. Many of the geoglyphs form geometric designs like trapezoids and spirals, with perhaps 70 depicting plants, animals, and other figures. Among the most famous are a hummingbird, a condor, a monkey, a spider, and a whale. These vary in size, but some figures measure several hundred meters from end to end. More frequent are straight lines, at least 500 of them, some of which extend as much as 10 kilometers (6.2 miles) crossing hills. Many of these lines converge at one or another of some 62 central points, looking like spokes on a wheel.

There is no single explanation that encompasses the meaning and function of all of the Nasca lines and geoglyphs. A few seem to be aligned to astronomical phenomenon like the sunrise and sunset on the solstices. Others, however, mark underground water sources that would have been a precious resource for sustaining large populations in one of the driest regions of the world. Still others may have served as processional pathways for ritual events whose significance we may never fully understand. Modern development has threatened this magnificent creation, and the fragility of this cultural landscape was highlighted in 2014. Environmental activists from Greenpeace walked onto a restricted zone around the hummingbird geoglyph to drape large cloth letters on the ground spelling out a message of protest meant to be visible from the air. Without protective footgear, and dragging their text across the ground, they moved rocks and exposed lighter-colored soil beneath, permanently marring the area.

THE MIDDLE HORIZON: THE FIRST HIGHLAND STATES (A.D. 600–1000)

While Moche ruled the north coast of Peru, two highland urban centers, Tiwanaku and Wari, rose to prominence in the south-central Andes. They reached their peak during the "Middle Horizon," which lasted from A.D. 600 to 1000.

Cooperation and Competition: Pukara and Taraco

During the mid-first millennium B.C., autonomous, permanent villages developed in resource-rich areas near rivers and lakes in the Titicaca Basin. Over the next thousand years, some of them became regional political centers marked by semi-subterranean enclosures or courts. These centers hosted feasts, markets, and rituals that served to bring together people from smaller settlements. Times appear to have been relatively peaceful, without the overt evidence of warfare or internecine violence. In about 500 B.C., the political landscape shifted, and depictions of trophy heads and other martial themes appeared on pottery, stone stelae, and textile, commemorating military prowess. Significant numbers of settlements now lie in defensible locations.

By about 2,000 years ago, several large regional centers developed in the northern Lake Titicaca Basin, each with sunken courts that served as ritual

gathering places. Among these were Pukara (described briefly in Chapter 18) and Taraco. If we look back to 400 B.C., large political centers lay about 20–25 kilometers (12–15 miles) apart, each with their hierarchies of lesser settlements, forming a highly competitive landscape with internal frontiers that could serve as buffer zones, where major centers waxed and waned in importance. By the first century A.D. the political landscape had tightened, and only two major polities dominated the northern basin—Pukara and Taraco.

Taraco lies about 15 kilometers (9 miles) north of Lake Titicaca, a complex of sunken courts and stone stelae covering an area of about a square kilometer (0.4 square mile). During the first century A.D., the site was burned down, apparently as a result of a savage raid. Fine stone construction ceased supplies of obsidian, a high-status material, plummeted. At the same time, Pukara was at the height of its power during the second century A.D.

A similar process of coalescence and dominance unfolded around the southern shores of Lake Titicaca as early as 700 B.C. Several smaller chiefdoms had emerged coalesced by the fifth century A.D. From this competitive environment, Tiwanaku emerged a century as the most important political power. Within two centuries the authority of Tiwanaku's rulers grew to encompass almost all resource-rich areas in the Titicaca Basin and further afield.

Tiwanaku (A.D. 500–1000)

Tiwanaku lies in the altiplano country at the southern end of the central Andes, where the herding of alpacas and llamas was always important, providing the triple resources of meat, textiles, and transportation. By A.D. 200 Tiwanaku was a major population center, equivalent in size to Pukara in the north. By A.D. 600 the growing center traded extensively around the lake's southern shores and by A.D. 650 it established a major shrine on the Island of the Sun. Copper was especially important and smelting and alloying technologies probably developed somewhat independently of the well-established copper technology on the Peruvian north coast. Although the colder, wetter environment of the highlands is not as conducive to the conservation of organic remains, beautiful Tiwanaku textiles, pottery, wood carvings, and gold objects have come from well-preserved burials on the coast, hundreds of miles from the altiplano. Llama caravans played an

important role in Tiwanaku's coastal trade, carrying wool and all kinds of trade goods, most of them of lightweight construction and especially designed for llama transport.

At its height during and after the eighth century, the capital covered more than 400 hectares (1,000 acres) and was able to support as many as 20,000 inhabitants with many thousands more people living in the surrounding Tiwanaku Valley. Such population densities were possible in the cold, high-altitude, and relatively low-rainfall environment because of elaborate, irrigated raised-field systems that covered at least 75 square kilometers (30 square miles). Modern experiments have shown that such fields are both frost resistant and highly productive for potatoes (which together with other crops such as quinoa remain today a staple of local foodways), with yields as much as 400 percent higher than dry plots on surrounding hillsides. Debates have continued for decades about the origins of these raised fields. Alan Kolata has argued that raised field systems are the product of a centrally directed and expansive state system, while Clark Erickson contends that the state came to rely on existing systems of small-scale family and community organized labor.

Tiwanaku was both an economic and a religious force. The great enclosure and temple of Kalasasaya is dominated by a large earth platform faced with stones and aligned with the cardinal points of the compass. Carved stelae serve as symbols of imperial power (Figure 19.9). Nearby, a rectangular enclosure is bounded with a row of upright stones and a doorway carved with an anthropomorphic god, believed to be the great creator deity, known by later peoples as Viracocha. A large artificial platform, the Akapana—about 200 meters (650 feet) along the sides and some 15 meters (50 feet) high—dominates the city. This terraced platform had massive, stepped retaining walls, with a sunken court on the summit that was surrounded by priestly residences. During the rains, water would gush out of this court onto the terraces, ending up in a large moat that surrounded the ceremonial precincts. Alan Kolata believes this precinct was a symbolic island, like the sacred Island of the Sun in nearby Lake Titicaca. This was where Tiwanaku's leaders would appear on ceremonial occasions, dressed, so sculpture tells us, like gods, with elaborate headdresses, or as condors or pumas. As in other Andean societies, offerings to the deities included human sacrifice. One recently excavated temple contained the skeleton of a young warrior, perhaps a captive, sacrificed in A.D. 600. We do not, however, see the same scale or

fervor for captive sacrifice that is so evident in the Moche Huaca de la Luna. Tiwanaku's striking art style represents a powerful iconography. The motifs include jaguars and eagles, as well as anthropomorphic gods being attended by lesser deities or messengers. The same styles occur over much of the southern Andes. Some of these motifs can be traced back to earlier Chavin society, and whether Tiwankau was the sole inspiration and promoter of such ritual and political symbolism, or instead if it developed and spread with both Tiwanaku and neighboring Wari influence remains a point of discussion among experts.

FIGURE 19.9 The Ponce Monolith viewed through a doorway in the Kalasasaya precinct at Tiwanaku. Xenomanes/Fotolia.

Tiwanaku's influence can also be seen widely in ritual practice throughout the highlands associated with more portable remains. The use of intoxicating snuffs and hallucinogenic San Pedro cactus can be seen even in the much earlier Chavin culture (see Chapter 18). However, the influence of Tiwanaku is particularly associated with the wide distribution (even as far south as the deserts of Chile) of ritual paraphernalia such as trays for arranging and tubes for inhaling snuff. A fascinating recent find from a rock shelter site known as Cueva del Chileno, perched some 3,900 meters (12,795 feet) above sea level in southwestern Bolivia, exemplifies and expands our understanding of these intoxicating practices. Among the remains of a burial (the human remains removed in antiquity), investigators found a ritual bundle of fabric containing ornately carved wooden tablets from which to inhale snuff, an anthropomorphic snuffing tube with human hair attached, llama-bone spatulas, an intricate textile headband, and a leather pouch made from three fox snouts stitched together, which they were able to radiocarbon date to A.D. 905–1170. Five psychotropic compounds, including cocaine and the active chemicals in the hallucinogen ayahuasca, were identified in a sample taken from inside the bag. This pharmacopia reflects the long tradition of Andean ritual practices tracing roots to the Amazon and western flanks of the Andes, all couched in the particular material format inspired by Tiwanaku.

Although the precise nature of Tiawanaku's control over the south-central Andes remains the subject of much debate, it was certainly more singular and centralized than that exercised in early periods along the coast by the apparently fragmented Moche kingdoms. Tiwanaku carved out what might have been an empire, pre-saging later Inka expansion, through a combination of aggressive and tightly controlled trading activity, conquest and colonization, and the perhaps softer power of religious ritual influence that created more unified practices across expansive areas. Many of its institutions endured, albeit in modified form, in Inka imperial rule in later centuries, and indeed the Inka would look back to Tiwanaku as a foundational political and cultural touchstone. Tiwanaku was long-lived by Andean standards, enduring two or three centuries after Moche collapsed on the north coast. In the end, Tiwanaku like so many civilizations may have succumbed to climate change in the form of a severe drought cycle, which persisted over several decades in the eleventh century. Eventually, the central government collapsed, the city's field systems fell into disrepair, and the state dissolved into its constituent parts.

Wari (A.D. 500–850)

Smaller states flourished across the region, but the growth of Tiwanaku and its expanding influence in the southern Andes was met in the central highlands by the emergence of the Wari kingdom in the Ayacucho region. The Wari art styles show some of the same Pukara influence that inflected Tiwanaku, especially in anthropomorphic feline, eagle, and serpent beings depicted on ceramic vessels. Like their southern neighbors, the Wari people seem to have revered a Viracocha-like being. By A.D. 800, their domains extended from Moche country in the Lambayeque Valley on the northern coast to south of Nasca territory, down the Moquequa Valley of the south-central Andes and into the highlands south of Cusco. They were expert traders who probably expanded their domain through conquest, commercial enterprise, and perhaps religious conversion. Storehouses and roads were probably maintained by the state. As with the Inka of later centuries, the state controlled food supplies and labor.

Wari was a highly stratified society, organized along kin lines, with a nobility that controlled elaborate irrigation works. Its rulers built and maintained a long canal that linked high-altitude springs and streams with acres of terraced fields on steep, lower slopes. The constantly expanding terrace works supported thousands of people, for they enabled the growing of high-yielding local maize strains. The rulers expanded their domains by the shrewd and simple expedient of moving their people into unoccupied highland valleys and then building elaborate and well-protected irrigation canals to bring water to new field systems. In each valley, members of the Wari nobility lived among the local people in rectangular administrative centers, thereby forming a string of highland colonies that linked mountain basins from near Cusco northward for nearly 1,000 kilometers (600 miles). Wari straddled key trade routes across the mountains and down to the Pacific, a strategic location that kept it in touch with Tiwanaku and other major kingdoms. As with the Inka of later centuries, the state appears to have controlled food supplies and labor through an annual mit’a tax. Economic data were carefully recorded on knotted cords, called *khipu* by the Inka. Wari khipu, however, used a base-five counting system distinct from the Inka base-ten system. Wari enjoyed long-standing connections with the Ica and Nasca valleys on the south coast, but it never seized or colonized coastal valleys because its agricultural methods were unsuited to the desert.

Some Wari centers were deliberate political statements. The Cerro Baúl site in the Moquequa Valley was a fortified settlement placed by the Wari in about A.D. 600 on an impregnable, sacred mesa, with only a single, heavily defended trail giving access to the flat summit. There the inhabitants constructed complexes of rectangular structures, courts, patios, and occasional D-shaped buildings. Quite why Wari lords occupied this inaccessible place is a mystery, but most likely it was a political decision—to plant a colony deep into territory under the sway of Tiwanaku. Cerro Baúl with about 1,000 inhabitants endured for four centuries, supported by fields watered with a contoured canal system feeding off a nearby river. The elite dwelt in well-constructed dwellings atop the hill. Support personnel dwelt at nearby Cerro Mejia. A large *chicha* brewery on Cerro Baúl provided fermented maize beer for libation ceremonies and the elite, who consumed a much richer and more diverse diet than commoners.

Cerro Baúl remained a potent Wari presence in the arid valley for four centuries. Tiwanaku settlements and a temple complex lay nearby, some villages within sight of Cerro Baúl, perhaps a political response to the Wari incursion. When it was abandoned the lords conducted elaborate termination ceremonies that involved the brewing of large quantities of *chicha,* feasting, and the smashing of fine drinking vessels, as well as burning the roofs of the brewery and other buildings. The abandonment coincided with the decline of both Tiwanaku and Wari around A.D. 1000.

Wari itself was abandoned in the eighth or ninth century A.D., perhaps as a result of internal revolt, but its art styles persisted on the coast for at least two more centuries. Its aggressive reclamation of mountain slopes for maize farming resulted in rapid population growth and in intense political competition in the highlands. Both Wari and Tiwanaku were turning points, a time when small regional states became integrated into much larger political units. This unification may have been achieved by conquest and other coercive means, but the iconography shared by many coastal and highland Peruvians at the time must have been a powerful catalyst for closer political unity. There was constant and often intensive interaction between two poles of Andean civilization in the highlands and lowlands, each with quite different food resources and products. This interaction, long a feature of Andean life, was to intensify in the centuries ahead.

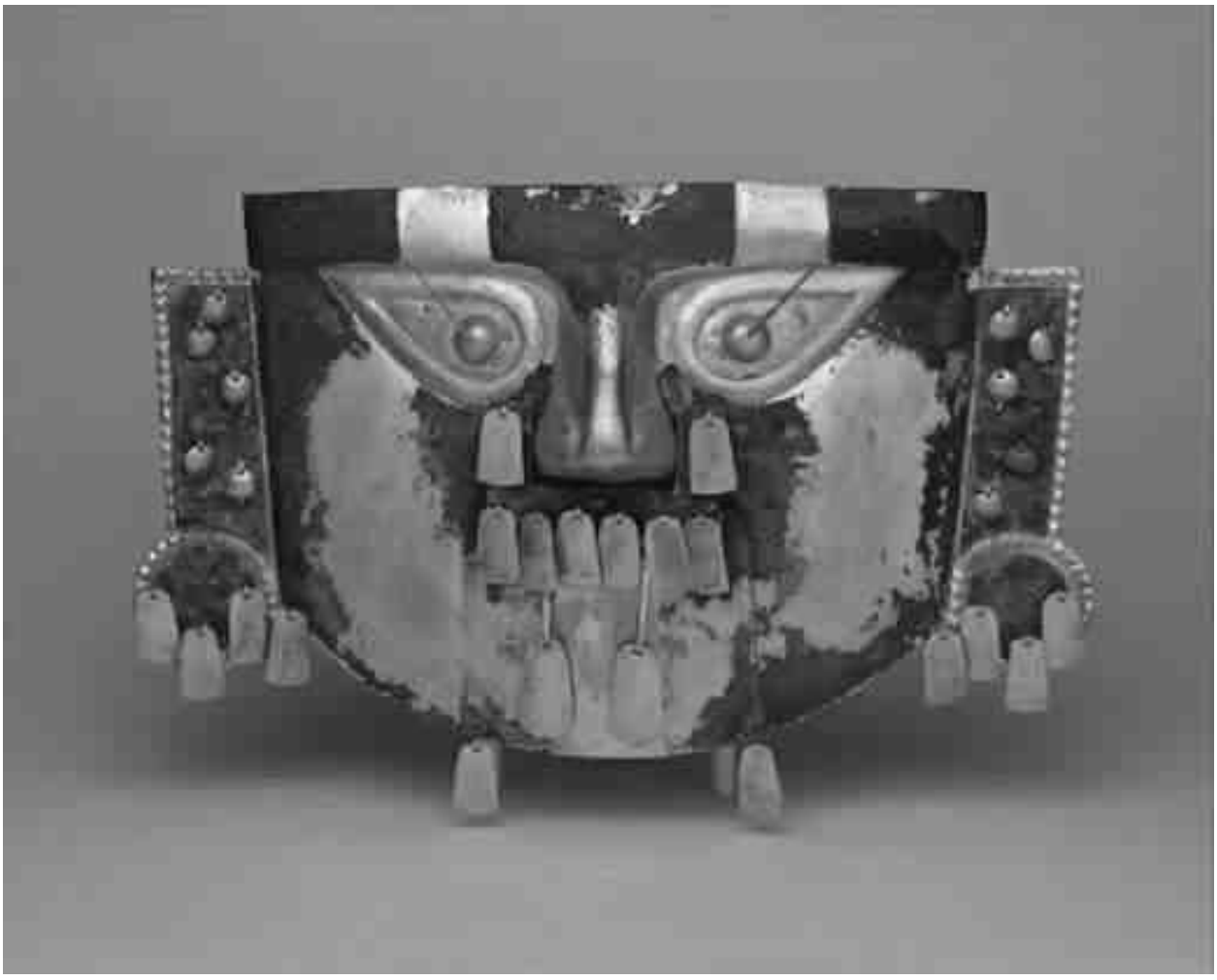
THE LATE INTERMEDIATE PERIOD (A.D. 1000–1400)

As Wari and Tiwanaku collapsed, political power on the highlands fragmented, and the center of political centralization shifted once again to the Pacific coast.

Sicán (C. A.D. 700–1375)

The decline of Moche states in the Lambayeque Valley left somewhat of a political vacuum, filled by the Sicán culture after A.D. 700. Sicán, centered on the Lambayeque Valley and remarkable for its magnificent gold work, which continued to build on Moche innovations, reached its peak between A.D. 900 and 1100. In Sicán society, metals of all kinds served as markers of social status and wealth—and as a prestigious medium of political, social, and religious expression—since access to artifacts and ornaments in different ores was carefully limited according to rank. Sicán lords encouraged intensive metal production, as well as seagoing trade in copper and other metals far to the north along the Ecuadorian coast. At the same time, they supervised massive irrigation works from major centers like Tucume in the Leche Valley. These various cities were sometimes linked by intervalley canals, requiring constant cooperation between lords in neighboring centers. If oral traditions are to be believed, many of them were related to one another and shared common ancestors. These rulers enjoyed fabulous wealth; witness the burial of a forty- to fifty-year-old man found in a roofed burial chamber. His mummified body lay in full regalia that included pectorals of semi-precious stones, and an elaborate gold mask (Figure 19.10). Golden gloves and shin covers lay by his body. Two female sacrificial victims—the one lying with her legs splayed, the other sitting, with her hands in front of the other's groin—seem to symbolize the rebirth of the lord. About 1.2 tons of grave goods including bronze, alloys of copper, gold, and silver came from the grave. Despite such evident wealth and power, the rulers of Sican were subject the same risks as their predecessors in the fragile environment of the coastal desert. Between A.D. 1050 and 1100, a massive El Niño caused widespread flooding and disruption. The royal precincts at Sicán itself were burned as political power shifted west to the El Purgatorio region. Around A.D. 1375, an expanding Chimú state overthrew Sicán and absorbed its domains into a new empire.

FIGURE 19.10 A gold, silver, and copper alloy funerary mask, adorned with red cinnabar paint and silver overlays, from the Sicán (Lambayeque) culture. This mask would have covered the mummy bundle of a deceased male ruler. The almond eyes mark the individual as a deified being whose piercing vision is emphasized by the protruding needles. The hanging pendants likely gave a sense of vitality as the mummy was carried in a procession to his tomb. Metropolitan Museum of Art. Gift and Bequest of Alice K. Bache, 1974, 1977 .



Chimor—The Chimú State (A.D. 1100–1400)

Chimor was born out of the political chaos that followed the collapse of the Moche capital at Pampa Grande. The Moche Valley had long been densely

cultivated, but the Chimú state that emerged embarked on more ambitious irrigation schemes: They built large storage reservoirs and terraced hundreds of kilometers of hillside to control the flow of water down steep slopes. One channel extended nearly 32 kilometers (20 miles) from the Chicama Valley to the new capital, Chan Chan, to supplement local water supplies. The Chimú created thousands of hectares of new fields and used water from great distances to harvest two or three crops a year from plots where only one crop had been possible before. So effective were these irrigation techniques that the Chimú controlled more than twelve river valleys with at least 50,600 cultivable hectares (125,000 acres), all of them farmed with hoes or digging sticks. Today, the local farmers in the region water their maize crops approximately every ten days, and this probably was the practice in Chimú times.

Much of what is known of the ascent and power of the Chimu state comes to us from oral histories recorded by Spanish and indigenous chroniclers after the conquest of Peru in 1532. During the thirteenth century, the rulers of Chimor embarked on an ambitious campaign of conquest and expansion, which continued intermittently for two centuries. They soon absorbed the Sicán city-states and the Lambayeque Valley. By 1470, when the Chimú fell to the conquering Inka and were incorporated into that empire, Chimor encompassed over 1,000 kilometers (620 miles) of coastline. This was two-thirds of all irrigated lands along the Peruvian coast, and brought the northern pole of early Andean civilization under the rule of a single state.

According to these Chimor oral traditions, between nine and eleven rulers governed the kingdom from Chan Chan before Minchancamon, an ambitious conqueror who began fighting the expansionist Inka in 1462. Minchancamon and his predecessors governed through a network of hereditary local nobility. His courtiers held specific ranks, such as Blower of the Shell Trumpet; Master of the Litter and Thrones; and Preparer of the Way, the official who scattered powdered shell dust wherever the ruler was about to walk. Archaeologists working at Chan Chan have found a layer of powdered shell dust on a bench in a forecourt, perhaps evidence that the Preparer of the Way had been at work. The various provinces of the kingdom were ruled by loyal local leaders. They enjoyed not only tribute privileges but also rights to crops and land and to agricultural labor by commoners. Perhaps the most privileged members of society were the *oquetlupec*, herb curers paid by the state to look

after the sick. This was a hierarchical, highly organized society with strict social classes of nobles and commoners.

The focus of the Chimú state was Chan Chan, a huge complex of walled compounds, which covers nearly 20 square kilometers (8 square miles) near the Pacific at the mouth of the Moche Valley. The central part consists of nine large enclosures laid out in a sort of broken rectangle, which covers 6 square kilometers (2.3 square miles) (Figure 19.11). Each enclosure was erected by mit'a labor and probably functioned as the palace for the current ruler of Chan Chan, who built himself new headquarters near those of his predecessors. The adobe walls of these compounds once stood as high as 10 meters (33 feet) and covered areas as large as 200 × 600 meters (670 × 2,000 feet). The walls were not constructed to defend the rulers but to provide privacy and some shelter from the ocean winds. Each enclosure had its own water supply, lavishly decorated residential rooms roofed with cane frames covered with earth and grass, and at the heart of the complex a platform within which were buried the mortal remains of Chan Chan's rulers surrounded by accompanying burials dedicated in their honor. The same enclosure that served as a palace during life became the ruler's burial place in death, for the Chimú god-kings were buried under platforms once reserved for deities. Some 6,000 *karaka*, nobles, lived in thirty smaller compounds with low walls. More than 26,000 artisans and their families, many of them metalworkers and weavers, lived in tracts of small adobe and reed-mat houses on the western side of the city. Farmers and fishermen lived outside the central precincts.

FIGURE 19.11 The Nik An Palace at Chan Chan, with its great enclosures reserved for Chimú rulers and the maintenance of their mummies after biological death. De Agostini/Getty Images.

Chimú rulers knew the value of efficient communications. Officially maintained roadways, which connected each valley in their domain with the capital, enabled them to move their armies rapidly from one place to the next. The rural routes were little more than tracks between low adobe walls or widely spaced posts, mostly following centuries-old paths through the fields. In the densely populated valleys, Chimú roads were between 4.5 and 7.5 meters (15 and 25 feet) across. In some places the roadway widened dramatically to 24 meters (80 feet) or more. These were the roads that carried gold ornaments and fine-hammered vessels to Chan Chan and textiles and fine, black-painted vessels throughout the empire. The traveler would occasionally encounter heavily laden llamas carrying goods to market, but most loads were carried on people's backs, for the Chimú never developed the wheeled cart. All revenues and tribute passed along the official roadways, as did newly conquered peoples being resettled in some area far from their original homeland. This draconian resettlement tactic was so successful that the Inka adopted it. The ruler then would install his own appointee in the new lands, in a compound palace that was a smaller version of Chan Chan itself.

The Chimú Empire extended far south, at least to Casma and perhaps near modern Lima, but the main focus of civilization was on the northern Peruvian littoral, where large-scale irrigation was a practical reality. Chimú armies fought with powerful neighbors to the south, among them the chief of Pachacamac, one of the most important Andean ritual centers, who controlled some narrow valleys south of Lima. Pachacamac had long been a venerated shrine and already boasted a terraced temple covering 0.3 hectares (0.75 acres). Later, the Inka built a vast Temple of the Sun at Pachacamac, an irregular trapezoid in a commanding position on a rocky hill.

For all its wide-ranging military activities and material wealth, the Chimú Empire was vulnerable to attack from outside. The massive irrigation works of the northern river valleys were easily disrupted by an aggressive conqueror. We know little of the defenses, except for Paramonga in the Fortaleza Valley, a massive terraced structure of rectangular adobes that overlooks the probable southern limits of Chimú territory. The Chimú were vulnerable to prolonged drought, too, for the storage capacity of their great irrigation works was only sufficient to carry them over one or two lean seasons. Moreover, perhaps the irrigated desert soils became too saline for agriculture, so that crop yields fell drastically at a time when population densities were rising sharply. Since the Chimú depended on a highly specialized agricultural system, once that system was disrupted—whether by natural or artificial causes—military conquest and control of the irrigation network were easy. Between 1462 and 1470, Minchancamon fought constantly with Inka armies, before Chimor became part of the empire of Tawantinsuyu, and thousands of Chimú artisans were resettled in Cusco to serve their new masters.

THE LATE HORIZON: THE INKA EMPIRE (A.D. 1476–1534)

During the Late Horizon, the expansion of the Inka state forged the Andean region into an empire. Called Tawantinsuyu, the land of four divisions, by its rulers, it was centered on Cusco and ruled by a people who, like the Aztec of Mesoamerica, had risen from relative obscurity with great rapidity.

Origins

The collapse of Tiwanaku and Wari during the late first millennium A.D. left a political vacuum in the south-central Andes, filled by many small kingdoms vying for power and control of lucrative trade monopolies. The Inka called these centuries *auca runa*, "the time of the warriors," but quite how they achieved dominance is a matter of great historical ambiguity. Doubtless the general processes of cooperation, warfare, and control of trade were the same as they were elsewhere in regions like the Titicaca Basin, even if the details elude us. At the time, the Inka were a small-scale farming society in the area around Cusco, one of many in the region. Like other groups, they lived in small villages, organized in kin groups known as *ayllu*, an ancient Andean institution that existed in many earlier societies. These groups claimed a common ancestry and owned the land in common. Inka *ayllu* leaders contributed labor to one another as a means of organizing and distributing resources on a reciprocal basis. The *ayllu* were legitimized in their land ownership and protected by the ancestors.

The later Inka rulers clothed their origins in a glorious panoply of heroic deeds, but the earliest Inka rulers were probably petty war leaders *(sinchi)*, elected officials whose success was measured by their victories and booty. Inka genealogies, embellished by royal families over the generations and set down in writing only in the decades after the Spanish conquest, speak of at least eight, probably legendary, rulers between 1200 and 1438. These men of varying ability were local kings or chiefs of Cusco, not emperors. In the beginning of the fifteenth century, however, a series of victories over small domains in the areas around Cusco were transformed into permanent conquests and Inka rulers soon presided over a small kingdom centered on Cusco. This nucleus of the empire was transformed as a royal. They became living gods, the first in a series of constant religious changes that kept the new kingdom under tight control. At about the same time a new religious cult emerged, that of Inti, a celestial divine ancestor associated with the sun.

Split Inheritance and Conquest

Around 1438, a brilliant warrior named Kusi Inka Yupanki was crowned Inka when he repelled an invasion of Cusco by the enemy Chanka people after his father (the previous Inka ruler) and brother (the crown prince) fled the city. He became the *Sapa Inka*, the king, and assumed the name Pachakutiq Inka Yupanki ("Earth Shaker") and set about transforming the state. He reworked

an age-old Andean ancestor cult and the associated law of split inheritance, changing Inka royal life fundamentally. A dead ruler was mummified, and his body, palace, servants, and possessions were still considered his property and were maintained by his *panaka*, those members of the royal family excluding his successor, the favored prince who ascended to the throne. The mummy was biologically dead, but very much socially alive. He was brought out regularly to attend great ceremonies, and the panaka used the former emperor's vast estates and resources to maintain a palatial lifestyle for the mummy and his caregivers. Such treatment of the dead rulers maintained a vital connection for Inka kings and nobility with the lineage of Pachakuti, and served as a visible links with the sun god Inti and other deities. Indeed, in many ways the mummies became the very embodiment of continuity in the Inka state. But such practices were costly, and the new Sapa Inka inherited little more than the throne. The new king had to acquire wealth so he could both live in royal splendor and provide for his mummy in the future. This was "split inheritance" the title going to the new ruler, the resources staying within the panaka. That meant further expansion of the empire was required for each successive ruler, as they sought to expand the economic base that would maintain them in life and death through the acquisition of territory, taxable goods, and labor. Thus, only way a new ruler could obtain his own royal estates, like those of Machu Picchu (founded during the reign of Pachakuti, and maintained by his panaka), was by expansion into new territory (Figure 19.12). The conquest had to be permanent, the conquered territory had to be controlled and taxed, and the ruler's subjects had to be convinced of the value of a policy of long-term conquest.

FIGURE 19.12 Intensive land use by the Inka is evident in the agricultural terraces that scale the hillsides near the rural Inka palace of Pisac, near Cusco, with the Sacred Valley of the Urubamba River below. Charles Golden.

Every adult in Tawantinsuyu had to render mit'a service—taxes paid in labor—to the state. This system repaired bridges and roads, cultivated state-owned lands, manned the armies, and carried out public works (Figure 19.13). It was a reciprocal system. The state, or those benefiting from the work, had to feed and entertain those doing the work. Among the most desirable payments from the state to its workers was *chicha*, or corn beer. Like pre-modern beers in so many parts of the world this was relatively low in alcohol but packed with calories and nutrition, forming an important part of the diet. Archaeologically, large goblets called keros—made of pottery, wood, or precious metals—are widely found across the Andes including at Chan Chan, Tiwanaku, Wari, and others, attesting to the deep cultural importance of chicha consumption. Indeed, chicha is still widely consumed in the Andes today.

FIGURE 19.13 An Inka khipukamayuq official (labeled in Spanish as an "accountant" or "treasurer") with his *khipu*, illustrated in the

work of the Quechua author Felipe Guaman Poma de Ayala (c. 1525–after 1616). De Agostini/Getty Images.

The Inka rulers were the ideological pivots of the empire. The Sapa Inka was the chief priest and son of the sun god Inti; his wife—the *Coya*—was the chief priestess of the moon. The welfare of everyone depended on the prosperity of all rulers, past and present, and on successful military conquest. Inka rulers were careful to reward prowess in battle, and nobles were promoted to new posts and awarded insignia that brought their lifestyle ever closer to that of the king. Brave commoners could rise through the ranks to achieve higher status, and bureaucratic officials could enjoy comfortable state-sponsored lifestyles. A highly complicated mix of violent enforcement, economic incentives, rewards, and ideological justifications fueled and nourished the Inka conquests.

From the Inka perspective imperial expansion brought a *Pax Incaica* to the Andes, uniting disparate polities under a single political and economic system and reducing internecine warfare. Indeed, there is evidence that the populace benefitted from the Inka capacity to move food and other goods to regions where they might be needed to stave off famine, or to adjudicate conflicts and prevent violence. But this was certainly not always a welcome or peaceful expansion. Bioarchaeological research shows a dramatic increase in blunt force trauma to the head in skeletons from the period of Inka expansion, particularly outside of Cusco, likely resulting from clubs and sling stones that were the primary weapons of the age. Within a decade of Pachakuti's accession the Inka were masters of the southern highlands. In less than a century the once tiny kingdom had expanded from Cusco to rule a vast empire.

The topography of mountains and deserts provided refuge for myriad ethnic groups, creating a rich cultural diversity within Tawantinsuyu. This very diversity made conquest of divided opponents relatively easy in most cases, but consolidation of territorial gains proved challenging in some cases. Even under the all-embracing Inka political umbrella there were no fewer than eighty provinces within the empire. The Inka ruler Topa Yupanki (1471–1493) extended the Inka Empire into Ecuador, northern Argentina, parts of Bolivia, and Chile. His armies also conquered the Chimú state, whose water supplies Topa already controlled. Another king, Wayna Kapak, ruled for thirty-two years after Topa Yupanki and pushed the empire deeper into Ecuador, launching expeditions into Colombia before he died, an early victim of European diseases that had spread south from Central America before any Spaniard set foot in the Inka territory.

Cusco and Tiwantinsuyu: Linking the Center to the Four Quarters

The Inka rulers developed an efficient administrative system to run their empire, one based firmly on the precedents of earlier Andean societies. Tawantinsuyu was divided into four large provinces known as *suyu* (“quarters”), each subdivided into smaller provinces, some of them coinciding with older, conquered kingdoms. Inka political and religious power centered on major urban complexes, and at the heart of the empire was Cusco, where the four quarters of the empire met. The streets of modern Cusco’s historical center retain much of the Inka city plan, which is said to resemble a puma. The head of the cat is Sacsayhuaman, the fortress complex rising on the hills above the northwestern end of the city (Figure 19.14). Two small rivers ran through the city, one of them dividing the great central plaza (the puma’s belly) into two parts, and merged at the southeastern edge of the town forming the tail of the beast. Aucaypata, to the east, was surrounded on three sides by the closely fitted granite walls of the Inkas’ palaces and other ceremonial buildings. Laid out on a generally cruciform plan reflecting the four divisions of the empire, Cusco had sufficient water to allow stone-lined channels down the major streets, providing better sanitation than any European city of the time.

FIGURE 19.14 Inka architecture at the fortress of Sacsayhuaman, near Cusco. Kirill Trifonov/Shutterstock.

The Qorikancha (Quechua for “sun house,” Spanish Coricancha), the Temple of the Sun, was a few hundred meters south of the central plaza, where four temples dedicated to Inti and other deities surrounded another plaza surrounded by a courtyard. A close-fitting masonry wall 4.5 meters (15 feet) high surrounded the entire complex. Radiating out into the countryside from the Qorikancha were *ceque* lines—conceptual lines of power along which huacas were located and venerated. Within the Qorikancha the Spaniards described a garden of golden plants, adorned with replicas of maize with silver stems and golden ears in the center of the temple. This lay in front of a room that contained an enormous gold image of the sun inlaid with semiprecious stones. Such treasures were sadly lost to pilfering and the payment of ransoms with the arrival of the Conquistadors, and the Convent of Santo Domingo was built atop the ruined temple.

Inka architects, master builders in stone, had red granite blocks from distant quarries dragged to the capital. Hundreds of stoneworkers dressed the stone by using river cobbles to pound concave depressions in the blocks and then trimming them to ensure a close fit with their neighbors. Inka masonry walls are so perfectly fitted that it is often impossible to drive a thin knife blade through the cracks between neighboring stones (Figure 19.14). In Cusco’s center today many buildings retain their Inka foundations, offering a sense of the grandeur of masonry in the city’s ancient heyday.

Within Cusco the panakas maintained a grip on the wealth and power of the city. Beyond Cusco, rulers had royal compounds like Macchu Pichu (Figure 19.15) built as rural palaces and new cities like Quito, in Ecuador, built to expand the reach of the empire. The conquered peoples in the Inka Empire were usually ruled by a leading member of a local family. These hereditary chiefs were a form of secondary, non-Inka nobility who governed a taxpaying population, but all the really important government posts were held by Inka nobles—to be Inka was closely associated with being from Cusco, though individuals not born in Cusco could be awarded the Inka identity for their service to the empire.

FIGURE 19.15 Ignored by outsiders for 400 years after the Spanish conquest, Machu Picchu, a royal Inka retreat high in the Andes, was brought to the wider public's attention by American explorer Hiram Bingham in 1911. The peak of Huayna Picchu rises in the background. Charles Golden.

Long-running traditions of agricultural terracing in the Andes were put to new purposes. Not merely a technology for increasing the food output needed by the state, mit'a labor was put to the task of expanding and over-building terraces to shape the mountainside into a vision of Inka power. At Moray, the nested oval terraces may even have functioned as a sort of experimental crop station, with different microclimates on different terrace levels.

The Inka rulers knew that the essence of efficient government in such an expansive territory and across such varied topography was efficient communications. Inka road builders commandeered, linked, and improved the vast network of age-old highways from the states they conquered. Waystations, called *tambos*, offered rest to travelers including military forces and traders. Runners (*chaskis*) were relay racers, able to connect the empire with transit times estimated at up to 240 kilometers per day.

The Inkas' passion for organization impinged on everyone's life. They organized society into twelve age divisions for the census and for tax assessment, divisions based on both physical changes like puberty and major

social events like marriage. The most important stage was adulthood, which lasted as long as one could do a day's work.

Despite the evident political complexity and scale of the Inka state, its rulers managed vast wealth, undertook expansive building projects, administered a multi-ethnic empire, and fielded massive armies, without a symbol system for inscribing language. Instead, the empire's rulers and officials maintained a tight control over the economy and other aspects of the state using string records called "khipu" (often spelled "quipu"), which means "knot" in the Quechua language of the Inka ruling class. String records are known elsewhere in the indigenous Americas, and similar technologies were likely invented independently many times. But it is in the Andes that such technology is best preserved and reached the level of regularity and systematic organization needed to serve expansive states. The earliest khipu-like object has been arguably identified at the coastal site of Caral, and may be more than 4,000 years old. There is no doubt that khipus were in use by the Wari state of the Middle Horizon, between A.D. 600 and 1000, and it is strongly suspected that the contemporary rulers of the Tiwanaku state used a similar technology. The known Wari khipus are remarkably similar to those of the Inka period in general appearance; however, they encode a base-5 system rather than the base-10, decimal system used by the Inka. It may be that as the Inka Empire expanded into territories occupied by the descendants of the Wari they adopted that local technology to their own needs and counting systems.

The expansive Inka state relied on its system of *collca* storehouses to provision its workers and soldiers. Rows of identical stone storehouses called collcas contained vast inventories of cloaks (some covered with gold and silver disks that gave the effect of chain mail), metal objects, textiles, tropical bird feathers, woolen garments, weapons, and food paid in tribute from all corners of Tawantinsuyu. Collcas were sometimes built spread across the mountain slopes, where cool winds kept the state supplies dry and in good condition, ready for redistribution. To ensure that the necessary stores were maintained, and not pilfered by local officials, required a system that permitted: (1) accurate record-keeping, (2) communication across the many languages spoken in the empire, and (3) imperial officials to check local records against central state records. The khipu provided for all of these, and highly trained officials called "khipukamayuq" (knot-maker) ensured consistency across the empire (Figure 19.13).

A khipu is essentially a series of knotted strings made of cotton, camelid wool, or a mix of the two. While there is a great variety of khipu formats, the "basic" Inka khipu is built around a "primary cord," from which are dangled a number of narrower "pendant cords." Many pendant cords have subsidiary cords, which may have further subsidiaries. Numeric information is organized in a decimal system. Powers of ten are indicated by clusters of single knots, and the higher powers of ten are closer to the primary cord. Thus, one or more knots closest to the primary cord may represent the 1000s place, the next cluster down holds the 100s place, and the next the 10s place. Units of ones come next, indicated either by a single knot for a value of "1," or a twisted, longer knot in which each turn represents an additional unit of "1."

Data may also have been stored in other variations of the khipu. There are, for instance, two options for the direction of twist in the cords, which may be twisted around their axis so that the fibers of the string angle from lower left to upper right (like a "z") or from lower right to upper left (like an "s"). Distinct colors, too, were incorporated by using cottons and wools of different whites, creams, browns, and blacks. Brighter colors were achieved with dyes. Strings of different colors might be twisted together to create a "barber pole" appearance, they could also be attached end to end, or mixed in more random patterns. Khipu may also appear different from different sides (their "front" and "back"). Scholars continue to debate and assess the significance of all of these variations.

When the Spanish expanded their rule across the Andes in the sixteenth century, they quickly turned to khipukamayuq to help transcribe khipus into written documents so that they might better keep track of resources and revenues. These transcriptions give a clear picture of the kinds and quantities of materials that were recorded on khipus. Indeed, these same records were later used in Spanish courts as local lords sought compensation for the riches stolen from their storehouses. These transcriptions also suggest that khipus held more than numeric data. They surely kept census and tax data, but they are also said to have served as references for historical narratives. We don't yet know, though, if this means that there was language tied into the knots, or if instead the khipus functioned as a sort of memory aid that permitted the Inka officials to recount known events with repeatable regularity. Unfortunately, lacking the original khipus that were transcribed, it isn't possible to connect the written documents directly to the system of knots.

Nonetheless, some interesting patterns emerge in the texts. The way in which plants, animals, and finished products, as well as office holders, are ordered in the written records suggests that these categories were organized, classified, and ranked in a regular way across khipus.

A significant problem in deciphering Inka-era khipus stems from the fact that most known examples either were excavated by looters, or were otherwise found outside of well-documented archaeological excavations. We thus have little in the way of primary context. However, efforts by modern scholars to systematically catalog all khipus have made it possible to identify important regularities within and between surviving examples. Such work has also identified distinct khipus that match up closely in terms of their numerical data, color, and other patterns. Some of these twinned khipus are physically tied together, and others appear to be copies that were stored at a distance from one another. These duplicate records likely represent checks and balances on accounting; one khipu might have been held locally at the storehouse, while the other was kept in a central archive of sorts. Officials could then check the central data against the local storehouse data to confirm resources.

Recently, however, archaeologists for the first time documented khipus in context with the resources they served to count in a storehouse at the coastal Inka administrative center of Inkawasi. Beneath collapsed walls, and scattered among broken pottery and other remains, archaeologist Alejandro Chu and his team uncovered thirty-four khipus, including two found in a basket covered with chili peppers and others covered in peanuts. In addition, a grid laid out on the floor of Inkawasi's storeroom suggests standardized units for bulk goods like chilies, peanuts, or other commodities for which counting individual items would be pointless. Each grid square covered in produce seems to constitute a countable unit. Such discoveries hold significant promise for helping to further decode the khipu system.

An Empire in Trouble and the Spanish Conquest (A.D. 1532–1534)

The Inka ruler held court in Cusco; however, power and wealth in the capital was divided between the ruling emperor and his allies on the one hand, and the panakas associated with the mummies of previous rulers on the other. Upon accession to the throne every ruler faced increasingly complex

governance problems as a result of split inheritance, as they sought to establish the economic bases for maintaining state functions, including the army. The need for more and more conquests caused great military, economic, and administrative stress. The logistics of long-distance military campaigns were horrendous, and the soldiers had to be fed from state-owned land, not royal estates. Moreover, although their tactics were well adapted to open country, where their armies were invincible, the rulers eventually had to fight in forests in the Amazonian lowlands or far afield in the southern Andes against people like the Mapuche of modern Chile and Argentina, against whom Inka forces fared poorly. As the empire had grown to stretch along the spine of the Andes and the lowlands west and east, communication and transportation networks were challenged, presenting difficulties for the maintenance of a highly centralized bureaucracy and military. In the end, the Inka Empire, the divisions that emerged among the Inka ruling class were enough to allow a tiny band of foreign adventurers with firearms to crack the foundations of the largest empire in the Americas.

When Spanish conquistador Francisco Pizarro landed in Peru in 1532, the Inka state was in the final throws of a civil war. Moreover, its people were already feeling the ill effects of smallpox and other epidemic diseases that had raced ahead of the Spanish themselves and spread south from European settlements in Central America. Inka Wayna Kapak had died from what may have been smallpox or measles in 1525 while campaigning with his armies in the north of the empire. The Inka were plunged into internecine conflict between his son Waskar, who sought to claw back resources from the powerful panakas in Cusco, and Waskar’s half-brother Atahuallpa who led his forces south from Ecuador to conquer the Empire. Even as Atahuallpa eventually prevailed, however, he learned that Pizarro had landed in Peru.

The Spaniards were bent on plunder and conquest, seeking to fold the Andes into the growing Spanish colonial system. Pizarro arrived in the guise of a diplomat, captured Atahuallpa by massacring Inka forces during what was meant to be a peaceful negotiation, ransomed him for a huge quantity of gold stripped from Inka temples, and then brutally murdered him. A year later the Spaniards captured the Inka capital with a tiny army (Figure 19.16). They took over the state bureaucracy and appointed Manco Inka, another of Huayna Capac’s sons, as puppet ruler. Three years later, Manco Inka turned on the Spanish in a bloody revolt that gathered hundreds of thousands of warriors to his cause. He laid siege to Cusco, and defeated the Spanish in

battle at the fortress of Ollantaytambo in 1537, before retreating to Vilcabamba where a Neo-Inka state was established. Despite the initial strength of the Neo-Inka resistance, Manco Inka was succeeded by three of his sons who were unable to stave off eventual defeat. The last of these Inka rulers, Tupac Amaru, was captured and executed by the Spanish in 1572. The fall of Vilcabamba and the Neo-Inka state represented the final dismemberment of Tawantinsuyu, but not of the many indigenous peoples who dwelt within the Inka domains, and who thrive in the Andes to this day.

FIGURE 19.16 The foundations of the Qorikancha are visible below the colonial Convent of Santo Domingo in Cusco, where the historical center of the city is incorporated and builds upon the Inka architecture. Charles Golden.

Summary

By 200 B.C., increasingly complex city-states had appeared along the north coast of the Andean region, ruled by a powerful hereditary elite. The Moche state flourished between A.D. 100 and 700, a multivalley polity based on trade and intensive irrigation agriculture supported by taxed labor. The burials of Sipán lords reveal the great power and riches of Moche civilization, with power deriving from the control of agricultural resources, religious beliefs, and the exercise of state violence in competition between kingdoms centered in the many river valleys of the Peruvian coast. In the south-central Andes, Tiwanaku and Wari rose to prominence during the first millennium A.D., controlling trade over a wide area of highlands and lowlands, and spreading their cultural influence such that the Inka would later look back to Tiwanaku as a foundational center. The Chimú state emerged from the chaos of the Moche collapse in A.D. 1100, unifying much of the coast under rulers based at Chan Chan on the north coast. Chimú was absorbed into the Inka Empire by at least 1470, if not earlier, at which point highlands and lowlands were joined in a single political unit tied together by extensive road systems, economic integration, and a powerful bureaucracy. The Spanish Conquest, which began in 1532, did not end Andean civilization but fundamentally transformed it as indigenous rule gave way to a European-dominated colonial system.

CHAPTER 20

Epilogue

FIGURE 20.0 Borobodur in Indonesia, the world's largest Buddhist temple, constructed in the ninth century A.D. and consisting of nine terraced platforms around a central dome. robertharding/Alamy Stock Photo.

The absence of romance in my history will, I fear, detract somewhat from its interest; but I shall be content if it is judged useful by those inquirers who desire an exact knowledge of the past as an aid to the interpretation of the future.

—Thucydides, History of the Peloponnesian War
(431–413 B.C.)

CHAPTER OUTLINE

Similar but Different
Interconnectedness
Volatility
The Stream of Time

Spanish conquistador Bernal Díaz del Castillo was among the last survivors of Hernán Cortés's motley band of soldier-adventurers. Born in the year Columbus landed in the Indies, Díaz died on his estates in Guatemala in 1581. His life spanned the greater part of the Spanish subjugation of Central and Latin America, but he never became wealthy. Blessed with a graphic memory and a great sense of the dramatic, the aged conquistador bequeathed his family and history a priceless account of the Spanish conquest of Mexico and of Aztec civilization. He wrote his *History of the Conquest of New Spain* while in his seventies and added a preliminary note to it at the age of eighty-four. Díaz was no writer, but his memories of Tenochtitlán and the brilliance of Aztec civilization resonate with a vividness that places the reader by the young soldier's side. Nearly three-quarters of a century later, every detail of the great capital and of a vanished civilization was still etched in an old man's mind. The colors, the costumes, the smells, the bustle of Tenochtitlán's great market, all come down to us across nearly five centuries with an immediacy one can never gain from archaeological sources alone. Díaz wrote of a society headed by a supreme ruler, Motecuhzoma, who lived in great state and was surrounded by immense wealth. Hundreds of people attended to his personal well-being and administered his government. And high above Tenochtitlán towered the great temple of the sun god, Huitzilopochtli, with its great drum that could be heard 10 kilometers (6 miles) away. The blood-stained shrine of the god symbolized the immense power of the divine forces that controlled the fate of the Aztec world. Aztec civilization was a pyramid, with all political, religious, and economic power centered in one person—Motecuhzoma, the *tlatoani*, "the Speaker." But this same ruler and his predecessors and equivalents in other societies were often the victims of

economic circumstances, presiding as they did over societies based on the efficient collection of tribute and the labor of thousands of commoners.

SIMILAR BUT DIFFERENT

We have told the story of the early civilizations on a deliberately global canvas, trying to give equal coverage to state-organized societies that were widely separated in time and space. This has allowed us to show that all civilizations do not organize the world either today or in the past in the same way as we do. These differing worldviews resonate through the centuries and millennia in many ways. Great public edifices like Maya ceremonial centers or Angkor Wat reproduced the cosmos, the symbolic world, in stone, plaster, and other durable materials. They provided the setting for lavish public ceremonies, which validated the special relationship between the ruler and the spiritual realm and between the ruler and the ruled. Archives of codices, inscriptions, papyri, and clay tablets sometimes illuminate the philosophies and spiritual beliefs of early civilizations. So do distinctive art traditions, like those of the Chavín of the Andes or classical Greece. The lesson from all these sources is clear: Comparisons except at the most general level between different early civilizations mean little, for the differences between them outweigh the similarities. For example, many early archaeologists compared the pyramids of Egypt with those of the Mesoamericans, arguing for a possible cultural connection between them. But closer examination of both Egyptian and Maya pyramids revealed major architectural differences, quite apart from the fundamentally dissimilar religious beliefs that lay behind their construction.

The popular literature still abounds with stirring accounts of how the ancient Egyptians sailed across the Atlantic and founded Maya civilization; one fantasy sees native copper ore from the shores of Lake Superior as the catalyst for the development of all early civilization. But historical reality is much more complicated. The art and artifacts of the Egyptians bear no resemblance to those of the Maya—as explorer John Lloyd Stephens pointed out in the 1840s. Nor has a single Egyptian object ever come to light in an archaeological site anywhere in the Americas. The great traditions of early, preindustrial civilization developed independently from one another, in the Near East and along the Nile River, in East Asia, and in the Americas. They were markedly different from one another in their architecture, artifacts, and

technologies; in their social and political institutions; and in their religious beliefs. But they shared one common characteristic: Each of them nurtured a far more complex human society than ever before—a civilization. And all of them allowed denser populations than previously, supported by intensive agriculture and complex administrative structures but at the price of personal freedom and built-in social inequality.

This process of becoming more complex varied in detail from one culture to another, and (as we pointed out in Chapter 2) it would be rash to invoke a single overarching theory to explain this complex transformation. That it was connected with climate change, with environmental circumscription, with new styles of leadership, and with responses to the need to grow and store food efficiently is obvious. But the processes by which these changes came about varied considerably from one area to the next. In Mesopotamia and Egypt, competition between neighboring leaders for the control of trading networks may have been an important catalyst for greater political and social complexity. In the Maya lowlands, shamanistic powers were a major factor in establishing royal lineages. The important point is that cultural, political, and social complexity arose in widely separated areas; this complexity was diverse in origin but remarkable in sharing a number of common features:

- Intensive, well-organized agriculture, which supported dense populations but at the cost of great social inequality and sometimes catastrophic environmental degradation
- Strongly centralized political and social organization, which institutionalized social inequality—the right of a tiny minority of the population to command the labor of thousands of farmers, artisans, and slaves
- Stratified social classes with a well-defined nobility, often closely linked by kin ties, at the peak of a pyramidlike society in which upward mobility was difficult to achieve except on the battlefield
- A universal set of religious beliefs, which often supported the notion of the leader as a divine monarch, a living god on earth
- Elaborate public architecture, which usually mirrored the symbolic architecture of the state: for example, Angkor Wat or Teotihuacán or, in their own way, the Parthenon at Athens and the Colosseum at Rome

- A closely organized, centralized bureaucracy, backed by force or the threat of force; this bureaucracy administered the gathering of tribute, a major activity in many preindustrial civilizations
- Some form of record-keeping, usually a written script in the hands of powerful officials; power came from literacy
- Some type of communication system by land or water, often road networks or caravan routes, usually administered by the state
- Cities, or lesser but still large administrative centers and agglomerations of population, and a hierarchy of lesser centers positioned strategically across the landscape

Preindustrial civilizations developed in different parts of the world in remarkably similar ways because, in the absence of fossil fuels, complex societies had to rely on the ability to organize enormous labor forces to accomplish their goals. These goals were such phenomena as large-scale irrigation works (Moche Peru), the Great Wall (Han China), and vast road systems (Imperial Rome); but they could never have been built or have operated efficiently without highly centralized control of the labor to build and maintain them, the crops they yielded, or the armies who guarded and used them. Built-in and accepted social inequality; political and economic mechanisms to ensure social conformity; and sheer, naked force or the threat of it were the foundations of preindustrial civilizations everywhere, simply because no one—whether pharaoh, Chinese leader, or Maya lord—could ever develop other ways of ensuring and controlling the loyalties of those who kept them in power. Ideology and ritual sanctions played their part but were often ineffective in the long term. The institutions, the beliefs, the nature of kingship itself might differ, but the mechanisms of centralization—of control of every aspect of human life—were always basically the same. Such societies endured in one form or another over many centuries in Africa, Asia, and the Americas, but they were remarkable for their volatility and their penchant for rapid collapse.

INTERCONNECTEDNESS

We live in a world of global economic systems and instant communication, where market forces in Asia can have radical effects on the economies of North America and Europe, where the health of, say, the computer industry in

Sweden is dependent on the abilities of software writers in India. A web of interconnectedness joins us all, large nation and small, vast continent or tiny Pacific island. We are tied together by ever-changing commercial, social, and political links—sharing information, competing for raw materials and in different marketplaces, and occasionally waging war. Historians like Immanuel Wallerstein have long written of the emerging world economic system, which resulted from the European age of discovery between the fifteenth and nineteenth centuries. Anthropologist Eric Wolf has described the many, often subtle, ties that have linked widely separated parts of the world—the industrializing nations of Europe with faraway tribal groups who controlled fur trade outlets, gold deposits, or fertile agricultural land. But these interconnections are nothing new. Enormous trading networks, albeit on a smaller, less-intense scale, developed much earlier in history. Sumerian Ur and Uruk maintained regular trading connections with the Levant, across the Iranian plateau with Afghanistan, and through the Persian Gulf with the Indus Valley. By the time of Christ, China, India, Mesopotamia, and much of Southwest Asia had been part of a large global trading network for many centuries. The network brought Chinese silk to Alexandria and Rome, cheap Indian textiles to the Nile, and precious stones from the Red Sea to the Persian Gulf. Seven centuries ago, a flourishing monsoon trade carried in dhows linked India and the Persian Gulf with the East African coast. Gold, ivory, textiles, and even timber traveled thousands of miles by sea. Chinese ships even visited Africa. Some of their officers even visited Mecca. A few Mesoamerican cities maintained irregular trading connections with Andean coastal states and, indeed, may have learned from them the art of metallurgy. These interconnections were vital to the survival of early civilizations. The Sumerians obtained their timber and metal ore from their highland neighbors and traded grain for semiprecious stones. The Harappan civilization of the Indus Valley traded such commodities with Agade and other Mesopotamian ports. Along with trade spread the institutions of early civilization. The states of Southeast Asia were based on notions of divine kingship imported along centuries-old trade routes from India. The constant interactions between highland and lowland Andean states led to complete interdependence and, after centuries of increasing competition and elaboration, to the Inka Empire.

But everything depended on communication, for without efficient means of transporting bulk goods and of moving armies rapidly to trouble spots, the territory of an individual state will be highly flexible, especially at its borders.

Old World civilizations had the benefit of the wheel and draft animals like donkeys, mules, and oxen. The domestication of the horse and the camel revolutionized warfare and caravan trade, while the downwind sailing ship was vital to riverine civilizations, like those of Egypt and Mesopotamia, and later to ocean trade routes. Nevertheless, larger states and empires, like that of the Romans, had constant problems with long-distance communications, despite an extensive road network. It was no coincidence that the Romans used ships as bulk carriers of foodstuffs wherever possible. In the New World, the ancient Americans had few draft animals and few sailing vessels. They relied on the backs of human beings, on llamas (in the Andes only), and on canoes and rafts.

But even with fast-moving horses, chariots, galleys, and sailing boats, communication was a constant problem, even for strong rulers with firm control of their domains. Communication difficulties were compounded as states grew in size and scale. Small city-states were confronted with problems of organization within the city and in a limited territory. Their primary concerns were the regulation of ethnic, ideological, and social conflicts. But the imperial civilizations, with their vast empires, dealt with a much wider world, to the point that communications became a major factor in daily life. The Inka maintained vast road networks with rest houses and teams of runners that linked the Andean highlands and lowlands. The Romans realized that efficient highways were vital if they were to be able to maintain order by the rapid deployment of legions to remote frontiers.

VOLATILITY

All of these problems led to uncertainty and to constant political and economic flux. Factionalism was a powerful factor in civilizations where power flowed from kin ties and fierce loyalties engendered by birth, distribution of tightly held wealth, and important official positions. Rulers rewarded loyalty with responsibility, often sowing the seeds of restless ambition in the heretofore most loyal provincial governors, priests, and viziers. For instance, despite the seeming linear serenity of pharaonic succession along the Nile, reality was much less comfortable, with constant plotting and maneuvering for position among close and not-so-close claimants to supreme power. Maya lords took enormous pains to legitimize their dynasties, to the extent of manipulating genealogies. Chinese rulers

emphasized their close ties to revered and powerful mythic ancestors. But in all cases, rulers' longevity, and thus the longevity of the state, depended on a delicate balancing act: ensuring the loyalty of those who governed the provinces of their domains and collected riches in their name, while at the same time ensuring that tribute, food surpluses, and labor flowed to their courts, contributed by law-abiding subjects who perceived the advantage in supporting the state. Then, as now, supreme power was a powerful elixir. Civilizations enjoyed high prestige among envious neighbors, who sometimes vied to adopt similar trappings and sometimes tried to become the dominant power. But often the balancing act failed, and political chaos ensued until a new ruler rose to prominence.

Nowhere can one discern this more clearly than in Egypt, where the pharaohs were thought to control the bounty of the annual inundation. The collapse of the last Old Kingdom dynasty and the disorders at the end of the Middle Kingdom—which brought the alien Hyksos to Egypt—resulted in part from cycles of drought, which undermined the myth of the infallible pharaoh and brought local leaders to political prominence. Some civilizations were the authors of their own demise. The partial Maya collapse in the southern lowlands around A.D. 900 may have resulted from droughts but also from overexploitation of the land and harsh demands from the elite. In this case, the entire apparatus of the state fell apart, cities were abandoned, and the people reverted to village farming. Even the largest preindustrial empires, like that of the Romans, collapsed when the inadequate and overstressed mechanisms of omnipotent, centralized government were no longer able to cope.

Volatile—in a constant state of flux—based on institutionalized social inequality and on force, slavery, and religious institutions that sometimes included human sacrifice—on the face of it, the preindustrial civilizations do not present an attractive portrait of humankind's ability to live in large, complex societies. Their endless cycles of rise and fall occur with such regularity that we are tempted to think of modern industrial civilization in similar cyclical terms. Does, then, the chronicle of preindustrial civilization in these pages—of volatility and ultimately of collapse—presage a similar fate for twenty-first-century civilization?

THE STREAM OF TIME

“Today all that I then saw is overthrown and destroyed; nothing is left standing.” The aged Bernal Díaz knew he had witnessed a climactic moment in history, the last spasms of an indigenous American civilization that extended deep into the remote past. The Aztec and Inka civilizations were the last preindustrial civilizations to become part of an expanding global economy. Their institutions belonged to a now-vanished world of ancient civilization, known to us from incomplete historical documents, sometimes from oral traditions, and above all from archaeological data. Only archaeology provides a scientific basis for understanding the preindustrial civilizations in true chronological and cultural perspective, against the enormous and global time scale of human evolution. Thousands of excavations and field surveys have revealed the astounding diversity of ancient civilizations and documented their constant volatility and their rapid rise and fall in the face of external and internal challenge. But with the Spanish conquest of Mexico and Peru, archaeological sources give way to richer ethnohistorical and documentary sources, which show how the volatility of civilization, that most complex of human societies, has continued into modern times.

By the time of the collapse of Inka civilization under the threat of Francisco Pizarro and his soldiers just under five centuries ago, world history had entered a new phase. At the middle of the sixteenth century, the Asian civilizations of China, Mughal India, and the Ottomans were perhaps the best organized and most powerful. All these civilizations flourished under highly centralized rule, with supreme rulers who insisted on uniformity in religion, in commercial activities, and even in warfare. In this sense, they were similar to earlier, volatile preindustrial civilizations. But there was no supreme authority in Europe, where kingdoms and city-states fought one another constantly and vied for commercial superiority. This political and economic free-for-all stimulated military improvements and technological innovations on a scale unimagined in other, more centralized societies.

By 1500 Europe had entered into an upward spiral of economic growth and enhanced military capacity, which in time carried the economies of Western nations ahead of all other civilizations on earth. They reached out over the oceans with their long-range sailing vessels, armed with guns, and highly organized military tactics. And over the next five centuries, the unfolding story of civilization became a constant chronicle of rise and fall, of never-ending competition among what Yale University historian Paul

Kennedy has called the “Great Powers”—civilizations on a far-larger scale than anything seen before. Kennedy points out that like their preindustrial predecessors, these Great Powers were also subject to cycles of rise and fall, often triggered by circumstances beyond their control.

Both the nineteenth and twentieth centuries have seen constant political, economic, and social change. Great Powers competed for power and economic advantage, sometimes resorting to warfare to gain objectives unattainable by diplomacy. In the twentieth century, two world wars and uneasy decades of peace have seen bloodshed and genocide on unimaginably brutal scales, far greater than anything committed by Rome or any other early civilization. But just as in much earlier times, the international system is subject to constant changes. The ebb and flow of political and military events and the day-to-day deeds of leaders such as Adolf Hitler of Germany, Mao Zedong (Mao-tse-tung) of China, or John F. Kennedy of the United States cause inevitable changes in the international system. But deeper transformations in the foundations of world power also make their way to the surface, especially in the economic sphere. The rise of Germany and Japan as major economic powers after World War II and the ongoing and rapid transformation of China into a dominant global trading partner are good examples. The competition among global civilizations, Great Powers if you will, often results in lengthy wars, such as those of the twentieth century. Productive economic forces have always played a vital role during the wars and after them, when new territorial orders emerge from the bloodshed and agony of battle. But the coming of peace does not mean that change will cease, for the differentiated growth among the Great Powers ensures that they will go on rising and falling relative to one another.

The reality of civilization means that to hold one’s own against a rival, one must possess a flourishing economic base. This means a focus not on short-term goals like conquest but on productive investment for long-term growth. Since the earliest times, societies, preindustrial and industrial, have grappled with the age-old dilemmas of rise and fall—the shifting pace of productive growth, technological innovation, alterations in the balance of power among competing states, and the ever-rising cost of warfare and conquest. These developments cannot be controlled by one state or a single individual. As the great nineteenth-century German statesman Otto von Bismarck once remarked, all nations (civilizations) are adrift on a “stream of time.” They navigate or have navigated on this stream with more or less skill and

experience. As the record of the past shows, much depends on the quality of their leaders—on the leadership skills of divine kings, priest-rulers, emperors, and latterly politicians. But they grapple, and have grappled, with the constant verities that have faced the Sumerians, the Egyptians, the Harappans, the Maya, and every other early civilization on earth: the uneven pattern of economic growth, which causes some to become wealthier and stronger than others, and the competitive and sometimes dangerous world beyond their borders. Their leaders have always trodden a fine line between economic growth and the need for self-defense and the constant danger of overstraining their society. All too often, the inexorable stream of time has carried civilization after civilization from power and prosperity to precipitate collapse. The experiences of the world's earliest states do not necessarily mean that early twenty-first-century industrial civilization is in danger. But the record of the past shows that many of the same forces that beset our forebears still lurk as unpredictable rapids on the ever-flowing stream of time.

Guide to Further Reading

The references that follow are but a tiny sampling of the enormous literature on the world's early civilizations. We have focused on general works, most of which include bibliographies that can lead you to the more specialized literature.

PART I BACKGROUND

Chapter 1 The Study of Civilization

General works on ancient civilizations include Norman Yoffee's *Myths of the Archaic State: Evolution of the Earliest States, Cities and Civilizations* (Cambridge: Cambridge University Press, 2005); Charles Redman, *The Rise of Civilization* (San Francisco, CA: Freeman, 1978); Jeremy A. Sabloff and C.C. Lamberg-Karlovsky, *Ancient Civilizations of the Near East and Mesoamerica*, 2nd ed. (Prospect Heights, IL: Waveland Press, 1995); and Bruce G. Trigger, *Early Civilizations: Ancient Egypt in Context* (Cairo: American University in Cairo, 1993). The same author's definitive *Understanding Early Civilizations: A Comparative Study* (Cambridge: Cambridge University Press, 2003) is essential reading for all serious students.

The comparative analysis of early state societies is covered by Michael E. Smith, "How do Archaeologists Compare Early States?" *Reviews in Anthropology* 35 (2006): 5–35. The complexities of urbanism and its definition are reviewed by George Cowgill in "Origins and Development of Urbanism: Archaeological Perspectives," *Annual Review of Anthropology* 33 (2004): 525–549.

A basic account of the discovery of the ancient civilizations will be found in Brian Fagan and Nadia Duranni, *A Brief History of Archaeology: Classical Times to the Twenty-First Century* (Abingdon: Routledge, 2nd ed., 2016) and also in the same author's *The Adventure of Archaeology* (Washington, DC: National Geographic Society, 1984). See also Paul Bahn, ed., *The History of Archaeology: An Introduction* (London: Routledge, 2014). For more regional historical studies, see, for Greece: R. Etienne and F. Etienne, *The Search for Ancient Greece* (London: Thames & Hudson, 1992); Egypt: Nicholas Reeves, *Ancient Egypt: The Great Discoveries* (London: Thames & Hudson, 2000); Mesopotamia: Brian Fagan, *Return to Babylon*, rev. ed. (Boulder: University of Colorado Press, 2007); and the Maya: Michael Coe, *Breaking the Maya Code* (London: Thames & Hudson, 1992). For early scripts, see Andrew Robinson, *The Story of Writing* (London: Thames & Hudson, 1995).

The use of satellite image to analyze recent looting and damage to cultural heritage in Egypt is described by Sarah Parcak, David Gathings, Chase Childs, Greg Mumford, and Eric Cline “Satellite evidence of archaeological site looting in Egypt: 2002–2013,” *Antiquity* 90 (2016), 188–205. Destruction of ancient sites in Syria and Iraq is covered by Helga Turku, *The Destruction of Cultural Property as a Weapon of War. ISIS in Syria and Iraq* (London: Macmillan Palgrave, 2018). For a review of the broader issues of archaeology in contexts of conflict and violence, see Susan Pollock “Archaeology and Contemporary Warfare,” *Annual Review of Anthropology* 45 (2016), 215–231.

Chapter 2 Theories of States

An enormous literature surrounds the origins of civilization. Charles L. Redman, *The Rise of Civilization: From Early Farmers to Urban Society in the Ancient Near East* (San Francisco, CA: W.H. Freeman, 1978) summarizes different theoretical approaches and takes a systems approach. Bruce G. Trigger’s magisterial *Understanding Early Civilizations: A Comparative Study* (Cambridge: Cambridge University Press, 2003) is essential reading. *Archaic States*, ed. Gary M. Feinman and Joyce Marcus (Santa Fe, NM: School of American Research Press, 1998) provides a provocative series of case studies of individual early state societies, plus several broad overviews. Among the latter, Kent Flannery’s “The Ground Plans of Archaic States” (pp. 16–57) is particularly notable. Recent studies of each of the major early civilizations are to be found in Michael E. Smith, ed., *The Comparative Archaeology of Complex Societies* (Cambridge: Cambridge University Press, 2012), pp. 321–329. A recent critique of the whole concept of “civilization” is provided by Justin Jennings, *Killing Civilization: A Reassessment of Early Urbanism and Its Consequences* (Albuquerque: University of New Mexico Press, 2016).

A broad developmental perspective of the development of human societies, focusing on economic issues in anthropological context, is provided by Allen W. Johnson and Timothy Earle, *The Evolution of Human Societies: From Foraging Group to Agrarian State* (Stanford, CA: Stanford University Press, 2001). Timothy Earle, *How Chiefs Come to Power: The Political Economy in Prehistory* (Stanford, CA: Stanford University Press, 1997) discusses chiefdoms on a broad canvas. V Gordon Childe, *Man Makes*

Himself (London: Watts, 1936) and *New Light on the Most Ancient East* (London: Routledge and Kegan Paul, 2nd ed., 1956) present the "revolution" theories. Robert McC. Adams, *The Evolution of States* (Chicago, IL: Aldine, 1966) is still an authoritative statement, as is Kent V. Flannery's "The Cultural Evolution of Civilizations," *Annual Review of Ecology and Systematics* 4 (1972): 399–426, which is a classic statement of the systems perspective. William T. Sanders, Jeffrey R. Parsons, and Robert S. Santley, *The Basin of Mexico: Ecological Processes in the Evolution of a Civilization* (Orlando, FL: Academic Press, 1979) is an exemplary regional study of highland Mesoamerican civilization with strong ecological undertones.

The important role that co-operation may have played in the formation of states and other types of human societies is discussed by Richard E. Blanton and Lane F. Fargher *How Humans Cooperate. Confronting the Challenges of Collective Action* (Boulder: University Press of Colorado, 2016) and Charles Stanish, *The Evolution of Human Cooperation* (Cambridge: Cambridge University Press, 2017).

For writing, see Andrew Robinson, *The Story of Writing* (New York: Thames & Hudson, 1995). For social approaches, see Elizabeth Brumfiel, "Aztec State Making: Ecology, Structure, and the Origin of the State," *American Anthropologist* 85, no. 2 (1992): 261–284; Elizabeth Brumfiel and John Fox, eds., *Factional Competition and Political Development in the New World* (Cambridge: Cambridge University Press, 1994) offers some case studies on the role of competing factions in the development of states. Kent Flannery's influential essay "Process and Agency in Early State Formation," *Cambridge Archaeological Journal* 9 (1999): 3–21, discusses chiefly cycling and charismatic leadership. Norman Yoffee, *Myths of the Archaic State: Evolution of the Earliest Cities, States, and Civilizations* (Cambridge: Cambridge University Press, 2005) is an analysis of recent thinking on the realities of state formation. Kent Flannery and Joyce Marcus, *The Creation of Inequality: How Our Prehistoric Ancestors Set the Stage for Monarchy, Slavery, and Empire* (Cambridge, MA: Harvard University Press, 2012) is an invaluable summary of the social and political aspects of the issue. For the view from the countryside, see Glenn M. Schwartz and Steven E. Falconer, eds., *Archaeological Views from the Countryside* (Washington, DC: Smithsonian Institution Press, 1994). For cities in a broader context, see the essays in Monica L. Smith, ed., *The Social Construction of Ancient Cities* (Washington, DC: Smithsonian Institution Press, 2003) and Ömür

Harmansah, *Cities and the Shaping of Memory in the Ancient Near East* (Cambridge: Cambridge University Press, 2013).

Joseph Tainter, ed., *The Collapse of Civilizations* (Cambridge: Cambridge University Press, 1988) and Norman Yoffee and George Cowgill, eds., *The Collapse of Ancient States and Civilizations* (Tucson: University of Arizona Press, 1988) are important discussions of the decline of early civilizations. See also Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Viking Adult, 2004), and the responses in Patricia A. McAnany and Norman Yoffee, eds., *Questioning Collapse. Human Resilience, Ecological Vulnerability, and the Aftermath of Empire* (Cambridge: Cambridge University Press, 2010). Roderick J. McIntosh, Joseph A. Tainter, and Susan Keech McIntosh, *The Way the Wind Blows: Climate, History, and Human Action* (New York: Columbia University Press, 2000) and Charles L. Redman, *Human Impact on Ancient Environments* (Tucson: University of Arizona Press, 1999) explore the role of climate change in culture change. For the cycles of recent civilizations, see Paul Kennedy, *The Rise and Fall of the Great Powers* (New York: Random House, 1987); for cycles of early civilizations, Joyce Marcus, "The Peaks and Valleys of Ancient States," in Gary M. Feinman and Joyce Marcus, eds., *Archaic States* (Santa Fe, NM: School of American Research Press, 1998), pp. 60–94.

PART II THE FIRST CIVILIZATIONS

The origin of farming in Southwest Asia is covered by Trevor Watkins, "From Mobile Foragers to Complex Societies in Southwest Asia," in Chris Scerre (ed.) *The Human Past* (London: Thames & Hudson, 4th ed., 2018), pp. 198–229. More details of the evidence for plant cultivation are provided by Sue Colledge and James Conolly, eds., *The Origins and Spread of Domestic Plants in Southwest Asia and Europe* (London: Routledge, 2016). Jacques Cauvin's views on the cognitive background to farming in Southwest Asia are set out in *The Birth of the Gods and the Origins of Agriculture* (Cambridge: Cambridge University Press, 2000); there is also useful commentary on the issue by Trevor Watkins, "New Light on Neolithic Revolution in Southwest Asia," *Antiquity* 84 (2010): 621–634.

Recent discoveries at Göbekli Tepe and their significance are summarized by Klaus Schmidt in *Göbekli Tepe—A Stone Age Temple in South-Eastern Anatolia* (Berlin: Ex Oriente, 2012). Kathleen Kenyon provides an accessible account of her excavations at Jericho in *Digging Up Jericho* (London: Benn, 1957). Results from Tell Abu Hureyra are presented by A.M.T. Moore, G.C. Hillman, and A.J. Legge, *Village on the Euphrates: The Excavation of Abu Hureyra* (New York: Oxford University Press, 2001). The excavations at Jerf el-Ahmar are published in French but with numerous illustrations: Danielle Stordeur, *Le Village de Jerf el Ahmar* (Paris: CNRS, 2016). Early work at Çatalhöyük was described in the popular account by James Mellaart, *Catal Hüyük: A Neolithic Town in Anatolia* (London: Thames & Hudson, 1967). For the more recent fieldwork at the site, see Ian Hodder, *Catalhöyük: The Leopard's Tale* (London: Thames & Hudson, 2006), and the same author's *Religion at Work in a Neolithic Society* (Cambridge: Cambridge University Press, 2014). (Note the revised spelling of the site name.)

Chapter 3 Mesopotamia: The First Cities (3500–2000 B.C.)

Good accounts of the development of Mesopotamian civilization are provided by Harriet Crawford, ed., *The Sumerian World* (London and New York: Routledge, 2013); by Mario Liverani, *The Ancient Near East: History, Society and Economy* (London and New York: Routledge, 2014); and by chapters in D.T. Potts, ed., *A Companion to the Archaeology of the Ancient*

Near East (Oxford: Wiley-Blackwell, 2012). For Southwest Asia more generally, see Marc van der Mieroop, *A History of the Ancient Near East* (Oxford, 3rd ed.: Wiley-Blackwell, 2016) and Michael Roaf, *Cultural Atlas of Mesopotamia and the Ancient Near East* (Oxford: Facts on File, 1990).

A short account of the city of Uurk is provided by Mario Liverani *Uruk: The First City* (London: Equinox, 2006). The role of irrigation in early Mesopotamian civilization is discussed by Robert McC. Adams, *The Evolution of Urban Society* (Chicago, IL: Aldine, 1966); Karl A. Wittfogel, *Oriental Despotism: A Comparative Study of Total Power* (New Haven, CT: Yale University Press, 1957); and Julian Steward, ed., *Irrigation Civilizations: A Comparative Study* (Washington, DC: Pan-American Union, 1955). For Adams's famous settlement surveys, see *Heartland of Cities* (Chicago, IL: University of Chicago Press, 1981); the wider implications of this and more recent survey work throughout the whole of Southwest Asia, from Yemen to Turkey, are reviewed and analyzed by T.J. Wilkinson, *Archaeological Landscapes of the Near East* (Tucson: University of Arizona Press, 2003). For the impact of cities and complex societies on rural settlement, see the studies in Glenn M. Schwartz and Steven E. Falconer, eds., *Archaeological Views from the Countryside: Village Communities in Early Complex Societies* (Washington, DC: Smithsonian Institution Press, 1994). The Tell al-Raqa'i excavations by Glenn Schwartz are published in *Rural Archaeology in Early Urban Northern Mesopotamia: Excavations at Tell al-Raqa'i* (Los Angeles, CA: Cotsen Institute of Archaeology Press, 2015).

The classic account of the Uruk world system is by Guillermo Algaze, *The Uruk World System: The Dynamics of Expansion of Early Mesopotamian Civilization* (Chicago, IL: University of Chicago Press, 2nd ed., 2004). The absence of evidence for pottery movement between the northern and east parts of the Uruk "world system" and the Uruk heartland is presented by Geoff Emberling and Leah Minc, "Ceramics and Long-Distance Trade in Early Mesopotamian States," *Journal of Archaeological Science: Reports* 2 (2016), 819–834. The processes behind the formation of the early state in Mesopotamia and elsewhere are discussed by Norman Yoffee, *Myths of the Archaic State: Evolution of the Earliest States, Cities and Civilizations* (Cambridge: Cambridge University Press, 2005).

For the theory of clay tokens as the precursors of writing, Denise Schmandt-Besserat's *How Writing Came About* (Austin: University of Texas

Press, 1996) provides a succinct account. Early writing is also discussed in Hans J. Nissen, Peter Damerow, and Robert K. Englund, *Archaic Bookkeeping: Early Writing and Techniques of Economic Administration in the Ancient Near East* (Chicago, IL: University of Chicago Press, 1993). See also Karen Radner and Eleanor Robson, eds., *The Oxford Handbook of Cuneiform Culture* (Oxford: Oxford University Press, 2011).

The third millennium in southern Mesopotamia receives thorough treatment from Nicholas Postgate, *Early Mesopotamia: Society and Economy at the Dawn of History* (London: Kegan Paul, 1992). House sizes at Tell Abu Salabikh are discussed by the same author in relation to city population estimates in "How Many Sumerians per Hectare? – Probing the Anatomy of an Early City," *Cambridge Archaeological Journal* 4 (1994): 47–65. The Royal Graves and ziggurat at Ur are described and illustrated by the excavator himself in Sir Leonard Woolley, *Ur of the Chaldees*, revised and updated by P R.S. Moorey (New York: Barnes & Noble, 1982). For human sacrifice in the Royal Graves, see D. Bruce Dickson, "Public Transcripts Expressed in Theatres of Cruelty: The Royal Graves at Ur in Mesopotamia," *Cambridge Archaeological Journal* 16 (2006): 123–144. Sumerian life and religious beliefs were vividly described by Samuel Noel Kramer, *The Sumerians: Their History, Character and Culture* (Chicago, IL: University of Chicago Press, 1963) and Thorkild Jacobsen, *The Treasures of Darkness* (New Haven, CT: Yale University Press, 1972).

Evidence supporting the climatic explanation for the fall of the Akkadian empire is reviewed by Stacy A. Carolin *et al*., "Precise Timing of Abrupt Increase in Dust Activity in the Middle East Coincident with 4.2 ka Social Change," *Proceedings of the National Academy of Sciences* 116 (2019): 67–72. A more general discussion of climate and social change at this period is provided by Felix Höflmayer, ed., *The Late Third Millennium in the Ancient Near East: Chronology, C14, and Climate Change* (Chicago, IL: University of Chicago Press, 2017).

The development of fiber technology and the role of women in textile production are discussed by Joy McCorriston, "The Fiber Revolution: Textile Extensification, Alienation, and Social Stratification in Ancient Mesopotamia," *Current Anthropology* 38 (1997): 517–549. For discoveries at Ebla, see Paolo Matthiae, *Ebla: An Empire Rediscovered* (London: Hodder and Stoughton, 1980).

On the Elamites and the Iranian plateau, see D.T. Potts, *The Archaeology of Elam* (Cambridge: Cambridge University Press, 1999) and John Curtis, ed., *Early Mesopotamia and Iran: Contact and Conflict 3500–1600* B.C. (London: British Museum Press, 1993). For Proto-Elamite colonies and Shahr-i Sokht, see relevant chapters in D.T. Potts, ed., *The Oxford Handbook of Ancient Iran* (Oxford: Oxford University Press, 2013).

Chapter 4 Egyptian Civilization

Excellent general accounts of Egyptian civilization and its archaeology are provided by Kathryn A. Bard, *Introduction to the Archaeology of Ancient Egypt* (Malden, MA: Wiley-Blackwell, 2nd ed., 2015) and Barry Kemp, *Ancient Egypt: Anatomy of a Civilization* (London and New York: Routledge, 1989). Ian Shaw, ed., *The Oxford History of Ancient Egypt* (Oxford: Oxford University Press, 2000) contains authoritative essays and an excellent bibliography. For a chronicle of archaeological discoveries, see Nicholas Reeves, *Ancient Egypt: The Great Discoveries* (London and New York: Thames & Hudson, 2000).

The chronology of ancient Egypt has been revised in the light of radiocarbon dates providing a scientific basis for correcting some of the traditional framework. This has made the Old Kingdom a little older than had been thought, and it has led to readjustments of dates for individual rulers. Those wishing to know more should consult A.J. Shortland and C. Bronk Ramsey, *Radiocarbon and the Chronologies of Ancient Egypt* (Oxford: Oxbow Books, 2012). Predynastic dates have also received some attention: see Michael Dee, David Wengrow, Andrew Shortland, Alice Stevenson, Fiona Brock, Linus Girdland Flink, and Christopher Bronk Ramsey, "An Absolute Chronology for Early Egypt using Radiocarbon Dating and Bayesian Statistical Modeling," *Proceedings of the Royal Society* A 469, 2013: 1–10.

The argument for the African character of ancient Egypt is set out by Chiekh Anta Diop, *Nations Nègres et Culture* (Paris: Presence Africaine, 1955) and Tarharka Sundiata, *Black Manhood: The Building of Civilization by the Black Man of the Nile* (Washington, DC: University Press of America, 1979). Martin Bernal, *The Afroasiatic Roots of Classical Civilization* (New Brunswick, NJ: Rutgers University Press, 1987 and 1992) presented the case for Egypt's contribution to Western civilization. The recent analysis of

ancient Egyptian DNA is reported by Verena J. Schuenemann *et al*., "Ancient Egyptian Mummy Genomes Suggest an Increase of Sub-Saharan African Ancestry in Post-Roman Periods," *Nature Communications.* DOI: 10.1038/ncomms15694 (2017).

For predynastic Egypt and origins, see David Wengrow, *The Archaeology of Early Egypt: Social Transformations in North-East Africa, 10,000 to 2,650 BC* (Cambridge: Cambridge University Press, 2006). For Hierakonpolis see Michael A. Hoffman, *Egypt before the Pharaohs* (Austin: University of Texas Press, 1991) and *The Predynastic of Hierakonpolis* (Cairo: Egyptian Studies Association, 1982). Evidence for the aridification of the Eastern Sahara in the fourth millennium B.C. is discussed by Joanne Clarke *et al*., "Climatic Changes and Social Transformations in Southwest Asia and North Africa during the 'long' 4th Millennium BC: A Comparative Study of Environmental and Archaeological Evidence," *Quaternary Science Reviews* 136 (2016), 96–121.

The pyramids are expertly covered by Mark Lehner, *The Complete Pyramids* (London and New York: Thames & Hudson, 1997), and for the Giza pyramid complex (including the workmen's town, the Sphinx, and other features) there is now the splendid *Giza and the Pyramids* by Mark Lehner and Zahi Hawass (London: Thames & Hudson, 2017). Recent work at Khufu's Red Sea harbor at Wadi al-Jarf is described in two articles by Pierre Tallet and Gregory Marouard, "The Harbour of Khufu on the Red Sea Coast at Wadi al-Jarf, Egypt," *Near Eastern Archaeology* 77 (2014), 4–14, and "The Harbor Facilities of King Khufu on the Red Sea Shore: The Wadi al-Jarf/Rell Ras Budran System," *Journal of the American Research Center in Egypt* 52 (2016), 135–177.

For Akhenaten's city of Amarna, see Barry J. Kemp, *The City of Akhenaten and Nefertiti: Amarna and Its People* (London: Thames & Hudson, 2012), and for his short-lived successor Tutankhamun, Nicholas Reeves, *The Complete Tutankhamun* (London and New York: Thames & Hudson, 1990). The Valley of the Kings more generally is the subject of Richard H. Wilkinson and Kent R. Weeks, eds., *The Oxford Handbook to the Valley of the Kings* (Oxford: Oxford University Press, 2016).

An introduction to Egyptian art and architecture is provided by Christina Riggs, *Ancient Egyptian Art and Architecture: A Very Short Introduction* (Oxford: Oxford University Press, 2014). For techniques of mummification see Salima Ikram and Aidan Dodson, *The Mummy in Ancient Egypt* (London

and New York: Thames & Hudson, 1998). For Egyptian cities, Steven R. Snape, *The Complete Cities of Ancient Egypt* (London: Thames & Hudson, 2014) and Nadine Moeller, *The Archaeology of Urbanism in Ancient Egypt. From the Predynastic Period to the End of the Middle Kingdom* (Cambridge: Cambridge University Press, 2016); for the economy, Brian Muhs, *The Ancient Egyptian Economy 3000–30 BCE* (Cambridge: Cambridge University Press, 2016); and for relationships between Egypt and its neighbors, Pearce Paul Creasman and Richard H. Wilkinson, eds., *Pharaoh's Land and Beyond. Ancient Egypt and Its Neighbours* (Oxford: Oxford University Press, 2017).

For ancient Egyptian writing and religious beliefs, see Richard H. Wilkinson, *Reading Egyptian Art: A Hieroglyphic Guide to Ancient Egyptian Painting and Sculpture* (London and New York: Thames & Hudson, 1992). The voices of the Egyptians themselves appear in Toby Wilkinson, *Writings from Ancient Egypt* (Harmondsworth: Penguin, 2016). The movement of Seti I's mummy from tomb to tomb is described by John H. Taylor, *Sir John Soane's Greatest Treasure: The Sarcophagus of Seti I* (London: Pimpernel Press, 2017).

Chapter 5 South Asia: The Indus Civilization

For the most recent general account of Early South Asian civilization see Robin Coningham and Ruth Young, *From the Indus to Ashoka. Archaeologies of South Asia* (Cambridge: Cambridge University Press, 2015).

The Indus civilization has spawned a proliferating literature. The classic but much outdated source is Mortimer Wheeler, *The Indus Civilization* (Cambridge, 3rd ed.: Cambridge University Press, 1968). Still useful also are Gregory Possehl, ed., *Indus Civilization* (New Delhi, 2nd ed.: Oxford and IBH Publishing, 1993), Jonathan M. Kenoyer, *Ancient Cities of the Indus Valley Civilization* (Karachi: Oxford University Press, 1998), and Jane McIntosh, *A Peaceful Realm: The Rise and Fall of the Indus Civilization* (Boulder, CO: Westview Press, 2001). For the Indus script, see Asko Parpola, *Deciphering the Indus Script* (Cambridge: Cambridge University Press, 1994). Indus overseas trade is covered by S. Ratnagar, *Encounters: The Westerly Trade of the Indus Civilization* (Delhi: Oxford University Press, 1981) and "The Bronze Age: Unique Instance of a Pre-Industrial World

System?" *Current Anthropology* 43 (2001): 351–379. The political organization of the Indus cities is discussed in Gregory L. Possehl, "Sociocultural Complexity without the State," in Gary M. Heinemann and Joyce Marcus (eds.) *Archaic States* (Santa Fe, NM: School of American Research Press, 1998), pp. 261–291. The Indus cemeteries have been studied by Gwen Robbins Schug, Elaine Blevins, Brett Cox, Kelsey Gray, and Veena Mushrif-Tripathy, "Infection, Disease, and Biosocial Processes at the End of the Indus Civilization," *PLoS ONE* (2013) DOI 10.1371/journal.pone.0084814.

The growing of summer and winter crops at Indus villages has been demonstrated by recent excavations in northern India: Cameron Petrie, Jennifer Bates, Thomas Higham, and Ravindra Nath Singh, "Feeding Ancient Cities in South Asia: Dating the Adoption of Rice, Millet and Tropical Pulses in the Indus Civilisation," *Antiquity* 90 (2016), 1489–1504. Recent evidence for the weakening of the monsoon and its impact on the development of the Indus cities is reported by Som Dutt, Anil K. Gupta, Bernd Wünnemann, and Dada Yan, "A Long Arid Interlude in the Indian Summer Monsoon during ~4,350 to 3,450 cal. yr BP Contemporaneous to Displacement of the Indus Valley Civilization," *Quaternary International* 482 (2018), 83–92.

For the genetics of early South Asian populations see David Reich, *Who We Are and How We Got Here: Ancient DNA and the New Science of the Human Past* (Oxford University Press, 2018), 122–153. Results of recent excavations at Lumbini in Nepal are described in Robin Coningham *et al*., "The Earliest Buddhist Shrine: Excavating the Birthplace of the Buddha, Lumbini (Nepal)," *Antiquity* 87 (2013): 1104–1123. For the stupas and reservoirs of Anuradhapura see Robin Coningham *et al*., "The State of Theocracy: Defining an Early Medieval Hinterland in Sri Lanka," *Antiquity* 81 (2007): 699–719, and Krista Gilliland *et al*., "The Dry tank: Development and Disuse of Water Management Infrastructure in the Anuradhapura Hinterland, Sri Lanka," *Journal of Archaeological Science* 40 (2013): 1012–1028.

Chapter 6 The First Chinese Civilizations

Chinese archaeology is becoming more readily accessible as Chinese archaeologists publish accounts of their discoveries in English. One of the most useful is by Li Liu and Xingcan Chen, *Archaeology of China: From the*

Paleolithic to the Early Bronze Age (Cambridge: Cambridge University Press, 2012) to which can be added Li Liu's earlier book *The Chinese Neolithic: Trajectories to Early States* (Cambridge: Cambridge University Press, 2004).

The origins of rice and millet farming in China have been the subject of considerable recent research. A useful overview is provided by Joel D. Cohen, "The Beginnings of Agriculture in China. A Multiregional View," *Current Anthropology* 52 (2011): S273–S293. For Niuheliang, see Gina L. Barnes with Guo Dashun, "The Ritual Landscape of 'Boar Mountain' Basin: The Niuheliang Site Complex of North-Eastern China," *World Archaeology* 28 (1996): 209–219, Hai Zhang, Andrew Bevan, and Dashun Guo "The Neolithic Ceremonial Complex at Niuheliang and Wider Hongshan Landscapes in Northeastern China," *Journal of World Prehistory* 26 (2015): 1–24, and Robert D. Drennan, Xueming Lu and Christian E. Peterson "A Place of Pilgrimage? Niuheliang and Its Role in Hongshan Society," *Antiquity* 91 (2017): 43–56. The process of state formation in two contrasting regions of northern and central China, from Neolithic to Shang, has recently been studied in detail by Robert D. Drennan and Xian Dai, "Chiefdoms and States in the Yuncheng Basin and the Chifeng Region: A Comparative Analysis of Settlement Systems in North China," *Journal of Anthropological Archaeology* 29 (2010): 455–468.

The recent work at Liangzhu is summarized in two articles: Bin Liu, Ningyuan Wang, Minghui Chen, Xiaohong Wu, Duowen Mo, Jianguo Liu, Shijin Xu, and Yijie Zhuang, "Earliest Hydraulic Enterprise in China, 5,100 Years Ago," *Proceedings of the National Academy of Sciences of the USA* 114 (2017):13637–13642; and Colin Renfrew and Bin Liu, "The Emergence of Complex Society in China: The Case of Liangzhu," *Antiquity* 92 (2018): 975–990. Discoveries at Liangzhu are set in the context of the rise of major walled centers more widely in the Yangzi and Huanghe basins by Chi Zhang *et al*., "China's Major Late Neolithic Centers and the Rise of Erlitou," *Antiquity* 93, 588–603. For Shimao, see Li Jaang, Zhouyong Sun, Jing Shao, and Min Li, "When Peripheries Were Centres: A Preliminary Study of the Shimao-Centred Polity in the Loess Highland, China," *Antiquity* 92 (2018): 1008–1022. The role of Shimao in the transmission of bronze metallurgy from the steppes to central China is described by Jessica Rawson, "Shimao and Erlitou: New Perspectives on the Origins of the Bronze Industry in Central China, *Antiquity Project Gallery* 91, e5 (2017): 1–5.

Roderick B. Campbell provides excellent and accessible accounts of the Shang Bronze Age in two recent books: *Archaeology of the Chinese Bronze Age: From Erlitou to Anyang* (Los Angeles: UCLA Cotsen Institute of Archaeology Press, 2014) and *Violence, Kinship and the Early Chinese State: The Shang and their World* (Cambridge: Cambridge University Press, 2018). Also useful is Robert L. Thorp, *China in the Early Bronze Age: Shang Civilization* (Philadelphia: University of Pennsylvania Press, 2006). For the post-Shang period see C.Y. Hsu and K.M. Linduff, *Western Chou Civilization* (New Haven, CT: Yale University Press, 1988) and Li Feng, *Early China: A Social and Cultural History* (Cambridge: Cambridge University Press, 2013), pp. 112–160. The study of Shang oracle bones as historical records is the subject of David N. Keightley, *Sources of Shang History: The Oracle Bone Inscriptions of Bronze Age China* (Berkeley: University of California Press, 1978). An excellent shorter account is given by Li Feng in the chapter "Cracking the Secret Bones: Literacy and Society in Shang China," in *Early China: A Social and Cultural History* (Cambridge: Cambridge University Press, 2013), ("Cracking the Secret Bones: Literacy and Society in Shang China," pp. 90–111).

For Bronze Age traditions beyond the Shang heartland see Jinsong Shi, "The Cultural Landscape of the Chinese Bronze Age," *Acta Archaeologica* 90 (2019), 81–109. The site of Zhukaigou in Inner Mongolia is described by Katheryn M. Linduff, "Zhukaigou, Steppe Culture, and the Rise of Chinese Civilization," *Antiquity* 69 (1995): 133–145. The important discoveries at Sanxingdui are described by Jessica Rawson, *Mysteries of Ancient China* (London: British Museum Publications, 1996), which contains details and illustrations of the striking bronze figures, and by Katheryn M. Linduff and Yan Ge, "Sanxingdui: A New Bronze Age Site in Southwest China," *Antiquity* 64 (1990): 505–513. The Xin'gan tomb is described by Robert W. Bagley, "An Early Bronze Age Tomb in Jiangxi Province," *Orientations* 24, no. 7 (1993): 20–36.

PART III GREAT POWERS IN SOUTHWEST ASIA

Chapter 7 Mesopotamia and the Levant (2000–1200 B.C.)

Two general works guide us through this complex period of Southwest Asian archaeology: Marc van der Mieroop, *A History of the Ancient Near East* (Oxford: Wiley-Blackwell, 3rd ed., 2016) and Michael Roaf, *Cultural Atlas of Mesopotamia and the Ancient Near East* (Oxford: Facts on File, 1990). Also useful is Eric M. Meyers, ed., *The Oxford Encyclopedia of Archaeology in the Near East* (New York: Oxford University Press, 1997) and Trevor Bryce, ed., *The Routledge Handbook of the Peoples and Places of Western Asia from the Early Bronze Age to the Fall of the Persian Empire* (London: Routledge, 2009).

Trade between Ashur and Anatolia is the subject of Mogens Larsen, *The Old Assyrian City State and Its Colonies* (Copenhagen: Akademisk Forlag, 1976); see also Larsen's analysis of the broader network, "Commercial Networks in the Ancient Near East," in Michael Rowlands, Mogens Larsen, and Kristian Kristiansen (eds.) *Centre and Periphery in the Ancient World* (Cambridge: Cambridge University Press, 1987), pp. 47–56. Excavations at Saar on Bahrain are described by Harriet Crawford, "The Site of Saar: Dilmun Reconsidered," *Antiquity* 71 (1997): 701–708; and the evidence from Dilmun summarized by Peter Magee, *The Archaeology of Prehistoric Arabia* (Cambridge: Cambridge University Press, 2014), pp.173ff.

Excavations at Mashkan-Shapir in Iraq are described by Elizabeth C. Stone and Paul Ziman-sky, *The Anatomy of a Mesopotamian City: Survey and Soundings at Mashkan-shapir* (Winona Lake, IN: Eisenbrauns, 2004).

Stephanie Dalley, *Mari and Karana: Two Old Babylonian Cities* (London: Longman, 1984) provides details of daily life at Mari drawn from the palace archives. For Norman Yoffee's analysis of the fall of the Old Babylonian empire, see *The Economic Role of the Crown in the Old Babylonian Period* (Malibu, CA: Undena, 1977); he summarizes the argument in "The Decline and Rise of Mesopotamian Civilization: An Ethnoarchaeological Perspective on the Evolution of Social Complexity," *American Antiquity* 44 (1979): 5–35. An account of the Elamites is provided by D.T. Potts, *The Archaeology of*

Elam: Formation and Transformation of an Ancient Iranian State (Cambridge: Cambridge University Press, 1999).

For the Hittites, see Trevor Bryce, *The Kingdom of the Hittites* (Oxford: Oxford University Press, new edition 2005) and the earlier J.G. Macqueen, *The Hittites and Their Contemporaries in Asia Minor* (London: Thames & Hudson, 1996). The Amarna letters are well covered by W.L. Moran, *The Amarna Letters* (Baltimore, MD: Johns Hopkins University Press, 1992). On the destruction of the late Bronze Age's great centers and the identity of their attackers, see Assaf Yasur-Landau, *The Philistines and Aegean Migration at the End of the Late Bronze Age* (Cambridge: Cambridge University Press, 2010). Excavations at Kilise Tepe and other sites are described in Roger Matthews, ed., *Ancient Anatolia* (London: British Institute of Archaeology at Ankara, 1998).

The hitherto problematic chronology of the early second millennium in Southwest Asia has been largely resolved by recent tree ring (dendrochronological) analysis. For the details, see Sturt W. Manning *et al*., "Integrated Tree-Ring-Radiocarbon High-Resolution Timeframe to Resolve Earlier Second Millennium BCE Mesopotamian Chronology" *PLoS ONE* 11(7): e0157144. doi:10.1371/journal.pone.0157144

Chapter 8 Southwest Asia in the First Millennium B.C.

Once again, excellent starting points for further reading are Marc van der Mieroop, *A History of the Ancient Near East* (Oxford, 3rd ed.: Wiley-Blackwell, 2016) and Michael Roaf, *Cultural Atlas of Mesopotamia and the Ancient Near East* (Oxford: Facts on File, 1990). Also useful is Eric M. Meyers, ed., *The Oxford Encyclopaedia of Archaeology in the Near East* (New York: Oxford University Press, 1997) and Trevor Bryce, ed., *The Routledge Handbook of the Peoples and Places of Western Asia from the Early Bronze Age to the Fall of the Persian Empire* (London: Routledge, 2009). J.T. Hooker, *Reading the Past: Ancient Writing from Cuneiform to the Alphabet* (London: British Museum Publications, 1990) describes cuneiform decipherment and the development of the alphabet.

A good general introduction to the Israelites is provided by Benedickt Isserlin, *The Israelites* (London: Thames & Hudson, 1998). For the ongoing debate over the chronology and origin of the early Israelite kingdoms see Avraham Faust and Yair Sapir, "The Governor's Residency at Tel 'Eton, the

United Monarchy, and the Impact of Old-House Effect on Large-Scale Archaeological Reconstructions," *Radiocarbon* 60 (2018), 801–820, responding to Israel Finkelstein, "The Archaeology of the United Monarchy: An Alternative View," *Levant* 28 (1996): 177–187, and "State Formation in Israel and Judah," *Near Eastern Archaeology* 62 (1999): 35–52. The historical and archaeological evidence for the Phoenicians is discussed by Josephine Quinn, *In Search of the Phoenicians* (Princeton, NJ: Princeton University Press, 2018).

Eckart Frahm, ed., *A Companion to Assyria* (London: Routledge, 2017) covers the various aspects of Assyrian history and archaeology. A study of one of the major palaces is John Malcolm Russell, *Sennacherib's Palace without Rival at Nineveh* (Chicago, IL: University of Chicago Press, 1991). The theory that the Hanging Garden of Babylon was in fact located at Nineveh is the subject of Stephanie Dalley, *The Mystery of the Hanging Garden of Babylon* (Oxford: Oxford University Press, 2013). For Nimrud, see David and Joan Oates, *Nimrud: An Assyrian Imperial City Revealed* (London: British School of Archaeology in Iraq, 2001). The palace reliefs at Nineveh are illustrated and discussed by Gareth Brereton, *I am Ashurbanipal: King of the World, King of Assyria* (London: British Museum, 2018).

The impact of Assyrian imperialism on the landscape of northern Mesopotamia is described by T.J. Wilkinson, *Archaeological Landscape of the Near East* (Tucson: University of Arizona Press, 2003) and the most recent work by Daniele Morandi Bonacossi, "The Creation of the Assyrian Heartland: New Data from the 'Land Behind Nineveh'," in Bleda S. Düring and Tessa D. Steck, eds., *The Archaeology of Imperial Landscapes: A Comparative Study of Empires in the Ancient Near East and Mediterranean World* (Cambridge: Cambridge University Press, 2018), 48–85. The new evidence for the impact of climate change on the rise and fall of the Assyrian empire is reported by Ashish Sinha *et al*., "Role of Climate in the Rise and Fall of the Neo-Assyrian Empire," *Science Advances* 5 (2019): eaax6656.

The best recent account of Babylon is by Michael Seymour, *Babylon: Legend, History and the Ancient City* (London: Tauris, 2018). For Urartu see Paul Zimansky, *Ecology and Empire: The structure of the Urartian state* (Chicago, IL: Oriental Institute, 1985).

Excavations at Gordion are described by Lisa Kealhofer, ed., *The Archaeology of Midas and the Phrygians. Recent Work at Gordion* (Philadelphia: University of Pennsylvania Museum of Archaeology and

Anthropology, 2005). The analysis of food residues from the Gordion tumulus is reported by Patrick E. McGovern and colleagues in “A Funerary Feast Fit for King Midas,” *Nature* 402 (1999): 863–864.

PART IV THE MEDITERRANEAN WORLD

Chapter 9 The First Aegean Civilizations

The archaeology of the Aegean Bronze Age is well summarized in a number of publications. The best starting point is Cyprian Broodbank's *The Making of the Middle Sea: A History of the Mediterranean from the Beginning to the Emergence of the Classical World* (London: Thames & Hudson, 2013). More details on individual topics and major sites are provided by the chapters in Eric Cline, ed., *The Oxford Handbook of the Bronze Age Aegean (ca. 3000–1000 BC*) (Oxford: Oxford University Press, 2012), and Cynthia W. Shelmerdine, ed., *The Cambridge Companion to the Aegean Bronze Age* (Cambridge: Cambridge University Press, 2008). Earlier accounts that are still useful include Oliver Dickinson, *The Aegean Bronze Age* (Cambridge: Cambridge University Press, 1994) and Colin Renfrew, *The Emergence of Civilization: The Cyclades and the Aegean in the Third Millennium* B.C. (London: Methuen, 1972; new edition Oxford: Oxbow Books, 2011).

A detailed study of the Cyclades, exploring their special character as island societies, is Cyprian Broodbank's *An Island Archaeology of the Early Cyclades* (Cambridge: Cambridge University Press, 2001). The Early Cyclaidc fortified settlements are covered by Anastasia Angelopoulou, "Early Cycladic Fortified Settlements: Aspects of Cultural Continuity and Change in the Cyclades during the Third Millennium BC," *Archaeological Reports* 63 (2017): 131–150. Recent excavations at the Dhaskalio Kavos sanctuary on Keros are covered by Colin Renfrew, Michael Boyd, and Christopher Bronk Ramsey, "The Oldest Maritime Sanctuary? Dating the Sanctuary at Keros and the Cycladic Early Bronze Age," *Antiquity* 86 (2012): 144–160. On Cycladic figurines, see Marisa Marthari, Colin Renfrew, and Michael Boyd, eds., *Early Cycladic Sculpture in Context* (Oxford: Oxbow Books, 2017). Patricia Getz-Preziosi's analysis of individual masters is published in her *Sculptors of the Cyclades: Individual and Tradition in the Third Millennium* B.C. (Ann Arbor: University of Michigan Press, 1987).

A number of works deal specifically with Aegean Bronze Age chronology. Among the most useful is Sturt Manning, *A Test of Time and A Test of Time Revisited: The Volcano of Thera and the Chronology and*

History of the Aegean and East Mediterranean in the Mid-Second Millennium BC (Oxford and Philadelphia: Oxbow Books, 2014). For the dating of the Santorini eruption see Sturt Manning *et al*., "Dating the Thera (Santorini) Eruption: Archaeological and Scientific Evidence Supporting a High Chronology," *Antiquity* 88 (2014): 1164–1173. The evidence that Santorini was probably not the volcano that erupted in 1628 B.C. is set out in Jonny McAneney and Mike Baillie, "Absolute Tree-Ring Dates for the Late Bronze Age Eruptions of Aniakchak and Thera in Light of a Proposed Revision of Ice-Core Chronologies," *Antiquity* 93 (2019), 99–112.

Gerald Cadogan, *Palaces of Minoan Crete* (London: Barrie and Jenkins, 1976) and Nanno Marinatos, *Minoan Kingship and the Near Eastern Koine* (Urbana: University of Illinois Press, 2010) deal with two key aspects of Minoan culture. The "secondary" nature of Minoan and Mycenaean civilization is covered by William A. Parkinson and Michael L. Galaty, "Secondary States in Perspective: An Integrated Approach to State Formation in the Prehistoric Aegean," *American Anthropologist* 109 (2007): 113–129. Sir Arthur Evans, *The Palace of Minos at Knossos,* 4 vols. (Oxford: Clarendon Press, 1921–1935) is the classic but, of course, now dated account of the great palace. For the extensive reconstruction that led to the palace that confronts visitors today, see Ilse Schoep, "Building the Labyrinth: Arthur Evans and the Construction of Minoan Civilization," *American Journal of Archaeology* 122 (2018), 5–32. The spectacular site of Akrotiri is described by Christos Doumas, *Thera: Pompeii of the Ancient Aegean* (London: Thames & Hudson, 1983); its wall paintings are discussed in detail in Susan Sherratt, ed., *The Wall Paintings of Thera* (Athens: Thera Foundation, 2010). For excavations during the twentieth century at two of the key mainland Mycenaean sites, see Alan Wace, *Mycenae: An Archaeological History and Guide* (Princeton, NJ: Princeton University Press, 1949); George Mylonas, *Mycenae and the Mycenaean Age* (Princeton, NJ: Princeton University Press, 1966); and Carl W Blegen and Marion Rawson, *The Palace of Nestor at Pylos* (Princeton, NJ: Princeton University Press, 1966). Yves Duhoux and Anna Morpurgo Davies, eds., *A Companion to Linear B Mycenaean Greek Texts and Their World* (Louvain-la-Neuve: Peeters, 2008–2014) discusses Mycenaean civilization from the evidence of the Linear B script. Chadwick's *The Decipherment of Linear B* (Cambridge: Cambridge University Press, 1958) tells the story of Michael Ventris and decipherment.

Interpretations of the political and social organization of Minoan and Mycenaean society are provided by Andrew Bevan, "Political Geography and Palatial Crete," *Journal of Mediterranean Archaeology* 23 (2010): 27–54; Jan Driessen, "Beyond the Collective . . . the Minoan Palace in Action," in Maria Relaki and Yiannis Papadatos (eds.) *From the Foundations to the Legacy of Minoan Society* (Oxford: Oxbow Books, 2018); Daniel J. Pullen, ed., *Political Economies of the Aegean Bronze Age* (Oxford: Oxbow Books, 2010); Guy Middleton, *The Collapse of Palatial Society in LBA Greece and the Postpalatial Period* (Oxford: Archaeopress, 2010); and David B. Small, "Mycenaean Polities: States or Estates?" in Michael L. Galaty and William A. Parkinson (eds.) *Rethinking Mycenaean Palaces: New Interpretations of an Old Idea* (Los Angeles: Cotsen Institute of Archaeology, 1999), pp. 47–53. The purpose of the Minoan palace courtyards is explored by Kathryn Soar, "Old Bulls, New Tricks: The Reinvention of a Minoan Tradition," in Mercourios Georgiadis and Chrysanthi Gallou (eds.) *The Past in the Past: The Significance of Memory and Tradition in the Transmission of Culture* (Oxford: Archaeopress, 2009), pp. 16–27. For urbanism in Minoan and Mycenaean society see Keith Branigan, ed., *Urbanism in the Aegean Bronze Age* (Sheffield: Sheffield Academic Press, 2002), pp. 38–49.

The route and the possible diplomatic mission of the Uluburun ship is discussed by Christoph Bachhuber, "Aegean Interest on the Uluburun Ship," *American Journal of Archaeology* 110 (2006): 345–363.

The craftsmanship of Mycenaeans and Minoans is well covered by Sinclair Hood, *The Arts of Prehistoric Greece* (Harmondsworth: Penguin, 1978). For a more detail account of Minoan craftsmanship see R.D.G. Evely, *Minoan Crafts: Tools and Techniques, an Introduction* (Göteborg: Atsröm's Förlag, 1993 & 2000). Michael Woods, *In Search of the Trojan War* (London: BBC Books, 1985) is a detailed discussion about the historicity of the Trojan War. The collapse of the Mycenaean palaces is the subject of Eric H. *1177 B.C.: The Year Civilization Collapsed* (Princeton, NJ: Princeton University Press, 2014).

Chapter 10 The Mediterranean World in the First Millennium (1000–30 B.C.)

An excellent overview of Mediterranean history over the past 3,000 years is provided by P. Horden and N. Purcell, *The Corrupting Sea* (Oxford:

Blackwell, 2000). Phoenician and Greek activity in the western Mediterranean and the Atlantic is described by Barry Cunliffe, *Facing the Ocean: The Atlantic and Its Peoples 8000* B.C.–A.D. *1500* (Oxford: Oxford University Press, 2001). Cyprian Broodbank's *The Making of the Middle Sea: A History of the Mediterranean from the Beginning to the Emergence of the Classical World (London, Thames & Hudson, 2013) also covers the early part of the period.*

For ancient Greece, good starting points are Jeremy McInerney, *Greece in the Ancient World* (London: Thames & Hudson, 2019), Richard T. Neer *Art & Archaeology of the Greek World* (London: Thames & Hudson, 2nd ed., 2019), John Bintliff, *The Complete Archaeology of Greece* (Oxford: Wiley-Blackwell, 2012), and James Whitley, *The Archaeology of Ancient Greece* (Cambridge: Cambridge University Press, 2001). For a more traditional historical account, J.B. Bury and Russell Meiggs, *A History of Greece* (London: Macmillan, 4th ed., 1975) provides an overview of Greek history to the end of the Classical period.

The Greek "Dark Age" and the rise of the Greek city-states are discussed by Robin Osborne, *Greece in the Making 1200–479 BC* (London: Routledge, 2nd ed., 2009). For early Athens and the burial evidence from Attica see the case study by Ian Morris, *Burial and Ancient Society: The Rise of the Greek City-State* (Cambridge: Cambridge University Press, 1987). Greek colonization is well covered by John Boardman, *The Greeks Overseas: Their Early Colonies and Trade* (London: Thames & Hudson, 4th ed., 1999). See also the splendidly illustrated *The Western Greeks*, ed. G. Pugliesi Carratelli (London: Thames & Hudson, 1996) and, for Metapontum, J.C. Carter, *Discovering the Greek Landscape at Metaponto* (Ann Arbor: University of Michigan Press, 2005).

For Phoenician activity in the Mediterranean, see Sabatino Moscati, ed., *The Phoenicians* (Milan: Bompiani, 1988) and Maria Eugenia Aubet, *The Phoenicians and the West: Politics, Colonies and Trade* (Cambridge: Cambridge University Press, 2nd ed. 2001). A more recent general account of the Phoenicians is provided by Josephine Quinn, *In Search of the Phoenicians* (Princeton, NJ: Princeton University Press, 2018). For ancient Carthage see David Soren, Aicha Ben Abed Khader, and Hedi Slim, *Carthage: Uncovering the Mysteries and Splendors of Ancient Tunisia* (New York: Simon & Schuster, 1990); and Serge Lancel, *Carthage: A History* (Oxford: Blackwell, 1995). The Carthaginian practice of child sacrifice is

discussed by John Day, *Molech: A God of Human Sacrifice in the Old Testament* (Cambridge: Cambridge University Press, 1989) and Shelby Brown, *Late Carthaginian Child Sacrifice and Sacrificial Monuments in Their Mediterranean Context* (Sheffield: JSOT Press, 1991).

For the archaeology and history of the Etruscans, see Sybille Haynes, *Etruscan Civilization: A Cultural History* (Los Angles: J. Paul Getty Museum. 2000). Two recent edited volumes provide a wealth of information on all aspects of their history, archaeology, religion, and culture: Sinclair Bell and Alexandra A. Carpino, eds., *A Companion to the Etruscans* (Malden, MA: Wiley Blackwell, 2016); and Jean MacIntosh Turfa, ed., *The Etruscan World* (London: Routledge, 2013). A useful brief overview is Christopher Smith, *The Etruscans. A Very Short Introduction* (Oxford: Oxford University Press, 2014). The classic older work is Massimo Pallottino, *The Etruscans* (Harmondsworth: Penguin, 1978). This can be supplemented by Larissa Bonfante, ed., *Etruscan Life and Afterlife* (Detroit: Wayne State University Press, 1986); Mario Torelli, ed., *The Etruscans* (London: Thames & Hudson, 2000); and Graeme Barker and Tom Rasmussen, *The Etruscans* (Oxford: Blackwell, 1998). The archaeological evidence is discussed by Vedia Izzett, *The Archaeology of Etruscan Society* (Cambridge: Cambridge University Press, 2007), and the significance of the impressive funerary record by Corinna Riva, *The Urbanisation of Etruria: Funerary Practices and Social Change, 700–600 BC* (Cambridge: Cambridge University Press, 2010). For Etruscan temples, see Charlotte R. Potts, *Religious Architecture in Latium and Etruria c.900–500 B.C.* (Oxford: Oxford University Press, 2015).

The development of classical Greek architecture is discussed by Barbara A. Barletta, *The Origins of the Greek Architectural Orders* (Cambridge: Cambridge University Press, 2001). For the most famous of all Greek temples, the Parthenon, see Jenifer Neils, ed., *The Parthenon: From Antiquity to the Present* (Cambridge: Cambridge University Press, 2005), and for the Athenian Acropolis more generally, two books by Jeffrey M. Hurwitt: *The Athenian Acropolis. History, Mythology and Archaeology from the Neolithic Era to the Present* (Cambridge: Cambridge University Press, 1999), and *The Acropolis in the Age of Pericles* (Cambridge: Cambridge University Press, 2004). Black- and red-figure pottery are covered by John Howard Oakley, *The Greek Vase*: *Art of the Storyteller* (London: British Museum, 2013) and Martin Robertson, *The Art of Vase-Painting in Classical Athens* (Cambridge: Cambridge University Press, 1992); see also Tom Rasmussen and Nigel

Spivey, eds., *Looking at Greek Vases* (Cambridge: Cambridge University Press, 1991).

The domestic context and relations between women and men and family and outsiders in the domestic context is analyzed by Lisa C. Nevett, *House and Society in the Ancient Greek World* (Cambridge: Cambridge University Press, 1999); see also her *Domestic Space in Classical Antiquity. Key Themes in Ancient History* (Cambridge: Cambridge University Press, 2010); and Nicholas Cahill, *Household and City Organization at Olynthus* (New Haven, CT: Yale University Press, 2002).

A general account of farming practices in the Classical period is given by Paul Halstead, *Two Oxen: Ahead Pre-Mechanized Farming in the Mediterranean* (Oxford, Wiley-Blackwell, 2014). The southern Argolid survey used here as a case study is described by Tjeerd van Andel and Curtis Runnels, *Beyond the Acropolis: A Rural Greek Past* (Stanford, CA: Stanford University Press, 1987). For the fuller definitive account of this project see Michael Jameson, Curtis Runnels, and Tjeerd van Andel, *A Greek Countryside: The Southern Argolid from Prehistory to the Present Day* (Stanford, CA: Stanford University Press, 1994). The archaeology of Messenia under Spartan control is covered in Nino Luraghi and Susan E. Alcock, eds., *Helots and Their Masters in Messenia and Laconia: Histories, Ideologies, Structures* (Cambridge, MA: Harvard University Press, 2003). The Laconia survey is published by William Cavanagh. Christopher Mee and Peter James, *The Laconia Rural Sites Project* (London: British School at Athens, Supplementary Volume no. 26, 2004). On the use of towers to incarcerate slaves, see Sarah P. Morris and John K. Papadapoulos, "Greek Towers and Slaves: An Archaeology of Exploitation," *American Journal of Archaeology* 109 (2005): 155–225. Evidence for the development of the rural hinterland of Chersonesos is set out by J.C. Carter, M. Crawford, P. Lehman, G. Nikolaenko, and J. Trelogan, "The Chora of Chersonesos in Crimea, Ukraine," *American Journal of Archaeology* 104 (2000): 707–741; for more recent fieldwork in the region, see Pia Guldager Bilde, Peter Attema, and Kristina Winther-Jacobsen, eds., *The Dzarylgaz Survey Project* (Aarhus: Aarhus University Press, 2012).

An excellent starting point for the history and archaeology of the Hellenistic Mediterranean is Jonathan Prag and Josephien Crawley Quinn, eds., *The Hellenistic West: Rethinking the Ancient Mediterranean* (Cambridge: Cambridge University Press, 2013). For Hellenistic art, see

Andrew Stewart, *Art in the Hellenistic World: An Introduction* (Cambridge: Cambridge University Press, 2014). The impact of Greek art culture on other areas of the Hellenistic world and beyond is covered by Kostas Vlassopoulos, *Greeks and Barbarians* (Cambridge: Cambridge University Press, 2013).

Chapter 11 Imperial Rome

For an excellent general introduction to Roman history and archaeology see David Potter, *Rome in the Ancient World: From Romulus to Justinian* (London & New York: Thames & Hudson, 3rd ed., 2019). The transitional period from the late republic to the early empire is covered by Sir Ronald Syme's classic, *The Roman Revolution* (Oxford: Oxford University Press, reissued 2002). For the rise of Rome as an Italian power see Nicola Terrenato, *The Early Roman Expansion into Italy: Elite Negotiation and Family Agendas* (Cambridge, Cambridge University Press, 2019). Many aspects of Roman archaeology are covered in Ray Laurence, *Roman Archaeology for Historians* (London: Routledge, 2012); for the Roman army see Adrian Goldsworthy, *The Complete Roman Army* (London: Thames & Hudson, 2003). The Roman economy is examined by Walter Scheidel, Ian Morris, and Richard P. Saller, eds., *The Cambridge Economic History of the Greco-Roman World* (Cambridge: Cambridge University Press, 2007).

Population estimates for Roman cities are discussed by John W. Hanson and Scott G. Ortman, "A Systematic Method for Estimating the Populations of Greek and Roman Settlements," *Journal of Roman Archaeology* 30 (2017): 301–324. The results of decades of excavation at the heart of the ancient city are encapsulated in Gilbert J. Gorski and James E. Packer, *The Roman Forum: A Reconstruction and Architectural Guide* (Cambridge: Cambridge University Press, 2014) and Andrea Carandini, ed., *The Atlas of Ancient Rome: Biography and Portraits of the City,* 2 vols. (Princeton, NJ: Princeton University Press, 2017). For the imperial harbor works at Portus see Simon Keay, ed., *Rome, Portus and the Mediterranean. Archaeological Monographs of the British School at Rome 21* (London: British School at Rome, 2012).

Excellent studies of Roman impact in individual provinces are: Martin Millett, *The Romanization of Britain: An Essay in Archaeological Interpretation* (Cambridge: Cambridge University Press, 1990); David Mattingly, *An Imperial Possession: Britain in the Roman Empire* (London:

Allen Lane, 2006); Susan E. Alcock, *Graecia Capta: The Landscapes of Roman Greece* (Cambridge and New York: Cambridge University Press, 1993); and Warwick Ball, *Rome in the East* (London: Routledge, 2000). Roman Britain and Roman Egypt are covered in depth in Martin Millett, Louise Revell, and Alison Jane Moore, eds., *The Oxford Handbook to Roman Britain* (Oxford: Oxford University Press, 2016) and Christina Riggs, ed., *The Oxford Handbook to Roman Egypt* (Oxford: Oxford University Press, 2012). Pompeii is well served by a number of popular and scholarly publications: two of the most useful are Mary Beard, *Pompeii: The Life of a Roman Town* (London: Profile Books, 2008) and Alison E. Cooley and M.G.L. Cooley, *Pompeii and Herculaneum: A Sourcebook* (London: Routledge, 2nd ed. 2014).

For Roman architecture, two standard authorities are J.B. Ward-Perkins, *Roman Imperial Architecture* (Harmondsworth: Penguin, 1991) and William L. MacDonald, *The Architecture of the Roman Empire*, 2 vols. (New Haven, CT: Yale University Press, 1982 and 1986). These are now supplemented by Clemente Marconi, ed., *The Oxford Companion to Greek and Roman Art and Architecture* (Oxford: Oxford University Press, 2015). For sculpture, painting, and mosaic, see Paul Zanker, *Roman Art* (Los Angeles, CA: J. Paul Getty Museum, 2012 and Jas Elsner, *The Art of the Roman Empire* (Oxford: Oxford University Press, 2nd ed., 2018).

Finally, for the impact of Christianity see Robin Lane Fox, *Pagans and Christians* (New York: Knopf, 1986) and Catherin Nixey, *The Darkening Age: The Christian Destruction of the Classical World* (London: Macmillan, 2017).

PART V NORTHEAST AFRICA AND ASIA

Chapter 12 Northeast Africa: Kush, Meroe, and Aksum

Lionel Casson's translation of *The Periplus of the Erythraean Sea* (Princeton, NJ: Princeton University Press, 1989), with accompanying commentary, is a superb analysis of the Periplus. David N. Edwards, *The Nubian Past: An Archaeology of the Sudan* (London: British Museum Press, 2004) gives an up-to-date account of recent research. Graham Connah, *African Civilizations* (Cambridge: Cambridge University Press, 3rd ed., 2016) has strong chapters on Nubia. For the latest Kerma excavations, see Charles Bonnet and Dominique Valbelle, *The Nubian Pharaohs: Black Kings along the Nile* (Cairo: AUC Press, 2005), and for excavations at Kerma itself, Bonnet's *The Black Kingdom of the Nile* (Cambridge, MA: Harvard University Press, 2019). An excellent overview of Kushite civilization: Lazlo Török, *The Kingdom of Kush: Handbook of the Napatan-Meroitic Civilization* (Leiden: Brill Academic Publishers, 1998). Egyptian imperialism in Nubia has generated an extensive literature. See Stuart T. Smith, *Askut in Nubia: The Economics and Ideology of Egyptian Imperialism in the Second Millennium* B.C. (London: Kegan Paul, 1995). For ethnicity: Stuart T. Smith, "Ethnicity and Culture," in Toby Wilkinson (ed.) *The Egyptian World* (London: Routledge, 2013), pp. 218–241.

Meroe: John Robertson, "History and Archaeology at Meroe," in Judy Sterner and Nicholas David (eds.) *An African Commitment* (Calgary: University of Calgary Press, 1993), pp. 35–50, provides useful background. Peter Shinnie and Rebecca Bradley, *The Capital of Kush I* (Berlin: Akademie-Verlag, 1980) is a key monograph. So is P.L. Shinnie and Julie R. Anderson, *The Capital of Kush II: Meroe Excavations, 1973–1984* (Wiesbaden: Harrassowitz Verlag, 2004). Richard W. Bulliet, *The Camel and the Wheel* (Cambridge, MA: Harvard University Press, 1975) is a brilliant study of this remarkable animal. For recent work on the remains of ironworking at Meroe see Chris Carey, Frank Stremke, and Jane Humphris, "The Ironworking Remains in the Royal City of Meroe: New Insights on the Nile Corridor and the Kingdom of Kush," *Antiquity* 93 (2019): 432–49.

Aksum: David W. Phillipson, *Ancient Ethiopia: Aksum: Its Antecedents and Successors* (London: British Museum Press, 1998) offers a comprehensive assessment. Results of the recent excavations at Beta Samati are described by Michael J. Harrower *et al*., "Beta Samati: Discovery and Excavation of an Aksumite Town," *Antiquity* 93 (2019): 1534–1552.

Chapter 13 Sub-Saharan Africa

Graham Connah, *African Civilizations: An Archaeological Perspective* (Cambridge: Cambridge University Press, 3rd ed., 2016) is a leading source. See also Peter R. Schmidt, *Historical Archaeology in Africa: Representation, Social Memory, and Oral Traditions* (Lanham, MA: Rowman and Littlefield, 2006). François-Xavier Fauvelle, *The Golden Rhinoceros: Histories of the African Middle Ages.* Trans. Troy Tice (Princeton, NJ: Princeton University Press, 2018) is a set of charming, provocative essays aimed at non-specialists, who also have much to offer scholars. Roland Oliver and Anthony Atmore, *Medieval Africa 1250–1800*. Rev ed. (Cambridge: Cambridge University Press, 2001) is a widely read synthesis with a more historical emphasis. Dorothy Hodgson and Judith Byfield, eds., *Global Africa into the Twenty-First Century* (Berkeley: University of California Press, 2017) contains valuable general and more specialized essays. S.K. McIntosh, *Beyond Chiefdoms: Pathways to complexity in Africa* (Cambridge: Cambridge University Press, 1999) is essential general reading.

The West African kingdoms: The written records: Nehemia Levtzion and J.F.P. Hopkins, eds., *Corpus of Early Arabic Sources for West African History* (Princeton, NJ: Markus Wiener, 2000). For Islam in Africa: Timothy Insoll, *The Archaeology of Islam in Sub-Saharan Africa* (Cambridge: Cambridge University Press, 2003). Nicholas Levtzion, *Ancient Ghana and Mali* (London: Methuen) is a classic account. Jenné Jeno: S.K. and R.J. McIntosh, *Prehistoric Investigation in the Region of Jenné, Mali* (Oxford: British Archaeological Reports 29, 1980). Igbo-Ukwo: Thurstan Shaw, *Igbo Ukwu*, 2 vols. (London: Faber and Faber). Graham Connah, *The Archaeology of Benin* (Oxford: Oxford University Press) is the essential monograph.

East African textual sources: G.S.P. Freeman-Grenville, *The East African Coast* (Oxford: Clarendon Press, 1962). The stone towns: Peter Garlake, *The Early Islamic Architecture of the East African Coast* (Nairobi: Oxford

University Press, 1966). See also Mark Horton and John Middletown, *The Swahili* (Malden, MA: Blackwell Publishers, 2000).

The latest summary of South-Central African mining is Duncan Miller et al., *Indigenous Gold Mining in Southern Africa: A Review* (Cape Town: South African Archaeological Society Goodwin Series 8, 2000). Innocent Pikirayi, *The Zimbabwe Culture: Origins and Decline of Southern Zambezian States* (Walnut Creek, CA: Altamira Press, 2011) provides an excellent synthesis of Great Zimbabwe. Peter Garlake, *Great Zimbabwe* (London: Thames and Hudson, 1973) is also an invaluable source, and there is further analysis of the different components of the site in Shadreck Chirikure and Innocent Pikirayi, "Inside and Outside the Dry Stone Walls: Revisiting the Material Culture of Great Zimbabwe," *Antiquity* 82 (2008): 976–993. David Beach, "Cognitive Archaeology and Imaginary History at Great Zimbabwe," *Current Anthropology* 39 (1998): 47–72, offers a useful critique of earlier theories. Mapungubwe: Thomas Huffman, *Mapungubwe: Ancient African Civilization on the Limpopo* (Johannesburg: Witwatersrand University Press, 2005). Robert T. Nyamushosho *et al*., "Are Drylands Marginal? The Case of Mananzve, Shashi Region, Southwestern Zimbabwe," *Azania* 53 (2018):425–438, provides a closely argued summary of dryland faming in the region.

Chapter 14 Divine Kings in Southeast Asia

C.F.W. Higham, *The Origins of the Civilization of Angkor* (London: Bloomsbury, 2012) and the same author's *Early Mainland Southeast Asia from the First Humans to Angkor* (Bangkok: River Books, 2014) provide up-to-date accounts of the developments in this chapter. Higham's *The Civilization of Angkor* (London: Weidenfeld and Nicolson, 2001) charts the rise of Angkor from its prehistoric origins. Charles Higham and Rachanie Thosarat, *Early Thailand: From Prehistory to Sukhothai* (Bangkok: River Books, 2011) is a useful popular account. David Chandler, *A History of Cambodia* (Boulder, CO: Westview Press, 1983) provides a broader historical perspective. See also Paul Wheatley, *The Golden Khersonese: Studies in the Historical Geography of the Malay Peninsula to A.D. 1500* (Kuala Lumpur: University of Malaya, 1961). Wheatley's *Nagara and Commandery* (Chicago: University of Chicago Department of Geography Research Papers, 1983) is a fundamental source. O.W. Wolters, *History, Culture, and Region in Southeast Asian Perspective* (Singapore: Institute of

Southeast Asian Studies, 1982) is invaluable on mandalas. For Khmer kingship, see I.W. Mabbett, "Kingship at Angkor," *Journal of the Siam Society* 66, no. 2 (1965): 1–58. A series of valuable essays on such topics as the life of commoners will be found in R.B. Smith and W. Watson, eds., *Early South East Asia* (Oxford: Oxford University Press, 1979). For Angkor Wat, see E. Mannika, *Angkor Wat: Time, Space, Kingship* (Honolulu: University of Hawaii Press, 1996) and the set of studies published by Roland Fletcher and his team in the journal *Antiquity* in 2015 (vol. 89, pp. 1388–1401). The LIDAR surveys are well covered by Damian H. Evans *et al*., "Uncovering Archaeological Landscapes at Angkor using Lidar," *Proceedings of the National Academy of Sciences* 110, no. 31 (2013): 12595–12600. This paper also discusses the collapse. Alison Carter *et al*., "Urbanism and Residential Patterning in Angkor," *Journal of Field Archaeology* 43 (6) (2018): 492–506, describes recent excavations at Ta Prohm and residential occupation inside the enclosure here and at Angkor Wat. The longer-term development of Angkor and the transition from temple enclosures to the walled city of Angkor Thom are set out by Sarah Klassen and Damian Evans, "Top-Down and Bottom-Up Water Management: A Diachronic Model of Changing Water Management Strategies at Angkor, Cambodia," *Journal of Anthropological Archaeology* 58 (2020): 1—8.

Two useful websites:

www.southeastasianarchaeology.com/ (news items and resources for Southeast Asian archaeology)

www.seaa-web.org/ (website of the Society for East Asian Archaeology)

Chapter 15 Kingdoms and Empires in East Asia (770 B.C.–A.D. 700)

Li Feng, *Early China. A Social and Cultural History* (Cambridge: Cambridge University Press, 2013) provides the best single-volume introduction to Chinese history and archaeology during these centuries. It is Li Feng who describes the centralized states of the third century B.C. as "seven gigantic killing machines." An older but still useful account is Gina Barnes, *China, Korea and Japan: The Rise of Civilization in East Asia* (London: Thames & Hudson, 1993) which also covers Japan and Korea. For the Yangzi Valley to the end of the Warring States period, Rowan K. Flad and Pochan Chen,

Ancient Central China (Cambridge: Cambridge University Press, 2013) provides detailed and invaluable coverage.

The brief account of the terracotta army of Shihuangdi and the reign of Shihuangdi himself is provided by James C.S. Lin and Xiuzhen Li, *China's First Emperor and the Terracotta Warriors* (Liverpool: National Museums Liverpool, 2018). Jane Portal's edited book *The First Emperor. China's Terracotta Army* (London: British Museum, 2007) provides more detail on specific aspects: Jessica Rawson in "The First Emperor's Tomb: The Afterlife Universe" (pp.114–145) provides an overview of the burial arrangements, while Lukas Nickel describes "The Terracotta Army" (pp.159–179), James Lin, "Armour for the Afterlife" (pp.180–190), and Duan Qingbo the extraordinary underground pleasure park with its bronze birds "Entertainment for the Afterlife" (pp. 192–203). The manufacture of the terracotta warriors themselves is described by Patrick Sean Quinn, Shangxin Zhang, Yin Xia, and Xiuzhen Li, "Building the Terracotta Army: Ceramic Craft Technology and Organisation of Production at Qin Shihuang's Mausoleum Complex," *Antiquity* 91 (2017): 966–979.

For the Han Empire, see Wang Zhongshu, *Han Civilization* (New Haven, CT: Yale University Press, 1982); for tomb remains, see S.L. Caroselli, ed., *The Quest for Eternity* (London: Thames & Hudson; Los Angeles: Los Angeles County Museum of Art, 1987). Discoveries at Beidongshan and Xuzhou are illustrated in *Orientations* 21, no. 10 (1990).

For the early states of the Korean peninsula, see Gina Barnes, *State Formation in Korea. Emerging Elites* (London: Curzon Press, 2001). A general account of Japanese prehistory is provided by Koji Mizoguchi, *The Archaeology of Japan: From the Earliest Rice Farming Villages to the Rise of the State* (Cambridge: Cambridge University Press, 2013). For the large kofun burial mounds see Werner Steinhaus and Simon Kaner, eds., *An Illustrated Companion to Japanese Archaeology* (Oxford: Archaeopress, 2016), especially the section on the Kofun Period (pp. 166–243); and Thomas Knopf, Werner Steinhaus, and Shun'ya Fukunaga, eds., *Burial Mounds in Europe and Japan: Comparative and Contextual Perspectives* (Oxford: Archaeopress, 2018).

PART VI EARLY STATES IN THE AMERICAS

Chapter 16 Lowland Mesoamerica

Expansive summaries of Mesoamerican civilization can be found in Susan Toby Evans, *Ancient Mexico and Central America* (London and New York: Thames & Hudson, 3rd ed., 2013) and *Mexico: From the Olmecs to the Aztecs*, by Michael Coe, Javier Urcid, and Rex Koontz (London: Thames & Hudson, 8th ed., 2019), or *The Art of Mesoamerica: From Olmec to Aztec* by Mary Miller (London: Thames & Hudson, 6th ed., 2019). Considering the foundations of early Mesoamerican village life, Kent Flannery, ed., *The Early Mesoamerican Village* (London and New York: Routledge, 2009 [1976]) remains a classic volume, remarkable for the data presented as well as its irreverent essays on the archaeological scene of the day. See also Inomata, Takeshi, Jessica MacLellan, Daniela Triadan, and colleagues, "Development of Sedentary Communities in the Maya Lowlands: Coexisting Mobile Groups and Public Ceremonies at Ceibal, Guatemala," *Proceedings of the National Academy of Sciences* 112 (2015): 4268–4273, and Inomata, Takeshi, Daniela Triadan, Verónica A. Vázquez López, and colleagues, "Monumental Architecture at Aguada Fénix and the Rise of Maya Civilization," *Nature* https://doi.org/10.1038/s41586-020-2343-4 (2020).

For the rise of the Olmec and interactions with surrounding regions, see Christopher Pool's, *Olmec Archaeology and Early Mesoamerica* (Cambridge: Cambridge University Press, 2007) and Richard Diehl's *The Olmecs: America's First Civilization* (London and New York: Thames & Hudson, 2005) also Michael Coe's lavishly illustrated *Olmec World* (New York: Abrams, 1996). At a more technical level, Robert Sharer and David Grove, eds., *Regional Perspectives on the Olmec* (Cambridge: Cambridge University Press, 1989) is a classic volume presenting the data as understood when published, while Robert M. Rosenswig's *The Beginnings of Mesoamerican Civilization: Inter-Regional Interaction and the Olmec* (New York: Cambridge University Press, 2009) offers a more recent discussion.

An enormous popular and specialist literature surrounds the ancient Maya. *The Maya World*, ed. Scott Hutson and Traci Ardren (New York: Routledge, 2020), Michael Coe and Stephen Houston's, *The Maya* (New York: Thames

& Hudson, 9th ed., 2015), and Robert J. Sharer and Loa Traxler, *The Ancient Maya* (Stanford, CA: Stanford University Press, 6th ed., 2006) give rich overviews of Maya civilizations through many periods. More specifically, for the Preclassic period, *The Origins of Maya States*, ed. Loa P. Traxler and Robert J. Sharer (Philadelphia: The University of Pennsylvania Museum of Archaeology and Anthropology), and for the Classic period there is *The Classic Maya*, by Stephen Houston and Takeshi Inomata (Cambridge and New York: Cambridge University Press, 2009). Michael Coe's *Breaking the Maya Code* (New York: Thames & Hudson, 3rd ed., 2012) offers a history of decipherment, while Coe and Mark Van Stone's *Reading the Maya Glyphs* (New York: Thames & Hudson, 2nd ed., 2005) provides the basics needed to learn to read these texts. Specific aspects of Maya civilization: for the economy, *Ancestral Maya Economies in Archaeological Perspective* by Patricia A. McAnany (New York: Cambridge University Press, 2014) and *The Real Business of Ancient Maya Economies: From Farmers' Fields to Rulers' Realms*, ed. Marilyn A. Masson, David A. Freidel, and Arthur A. Demarest (Gainesville: University of Florida Press, 2020); for political history, *Ancient Maya Politics: A Political Anthropology of the Classic Period 150–900 CE* by Simon Martin (New York: Cambridge University Press, 2020); for drought, *The Great Maya Droughts in Cultural Context: Case Studies in Resilience and Vulnerability*, ed. Gyles Iannone (Boulder: University of Colorado Press, 2014); for discussions of the Classic period collapse, David Webster's book (*The Fall of the Ancient Maya: Solving the Mystery of the Maya Collapse* (New York: Thames & Hudson, 2002)) does not include all of the latest data but nonetheless provides a rich discussion of the nuance and complexities of the subject.

Chapter 17 Highland Mesoamerica

Again, the literature is enormous, and one can begin with the overview volumes by Susan Toby Evans, *Ancient Mexico and Central America* (London and New York: Thames & Hudson, 3rd ed., 2013), *Mexico: From the Olmecs to the Aztecs*, by Michael Coe, Javier Urcid, and Rex Koontz (London: Thames & Hudson, 8th ed., 2019), *The Art of Mesoamerica: From Olmec to Aztec* by Mary Miller (London: Thames & Hudson, 6th ed., 2019), or *Mexico's Indigenous Past*, by Alfredo López Austin and Leonardo López Lujan (Norman: University of Oklahoma Press, 2005).

For the Valley of Oaxaca and surrounding regions see Kent Flannery and Joyce Marcus, *Zapotec Civilizations: How Urban Society Evolved in Mexico's Oaxaca Valley* (London and New York: Thames & Hudson, 1996), Richard Blanton, Gary M. Feinman, Stephen A. Kowalewski, and Linda M. Nicholas, *Ancient Oaxaca: The Monte Albán State* (Cambridge: Cambridge University Press, 1999), *Mixtecs, Zapotecs, and Chatinos: Ancient Peoples of Southern Mexico,* by Arthur A. Joyce (Malden, MA: Wiley-Blackwell, 2010).

For Teotihuacán and its contemporaries, see Kathleen Berrin and Esther Pasztory, eds., *Teotihuacán: Art from the City of the Gods* (New York: Thames & Hudson, 1993) which gives a lavishly illustrated summary. See also René Millon, *Urbanization at Teotihuacán, Mexico,* vol. 1, *The Teotihuacán Map* (Austin: University of Texas Press, 1973) and Saburo Sugiyama, *Human Sacrifice, Militarism, and Rulership: The Symbolism of the Feathered Serpent Pyramid at Teotihuacán, Mexico* (Cambridge: Cambridge University Press, 2004). More recent overviews are also provided by George L. Cowgill's *Ancient Teotihuacan: Early Urbanism in Central Mexico* (New York: Cambridge University Press, 2015), *Teotihuacan: City of Water, City of Fire,* ed. Matthew L. Robb (San Francisco: Fine Arts Museum of San Francisco + de Young/University of California Press, 2017), and *Teotihuacan: The World Beyond the City,* ed. Kennth G. Hirth, David M. Carballo, and Barbara Arroyo (Washington, DC: Dumbarton Oaks Research Library and Collection, 2020). For the Toltecs, see Alba Guadalupe Mastache, Robert H. Cobean, and Dan M. Healan, *Ancient Tollan: Tula and the Toltec Heartland* (Boulder: University Press of Colorado, 2002) and *Twin Tollans: Chichén Itzá, Tula, and the Epiclassic to Early Postclassic*, ed. Jeff Karl Kowalski and Cynthia Kristan-Graham (Washington, DC: Dumbarton Oaks Research Library and Collection, 2007).

The Aztecs are well covered in Richard F. Townsend, *The Aztecs* (New York: Thames & Hudson, 3rd ed., 2009); also by Inga Clendinnen, *Aztecs: An Interpretation* (Cambridge: Cambridge University Press, 1991). See also Michael Smith, *The Aztecs* (Oxford: Blackwell, 3rd ed., 2012) and Francis F. Berdan, *The Aztecs of Central Mexico: An Imperial Society* (Belmont, CA: Thomson-Wadsworth, 2005). A classic work is *Aztec Thought and Culture*: *A Study of the Ancient Nahuatl Mind*, by Miguel León-Portilla (Norman: University of Oklahoma Press, 2012). Tenochtitlán: José Luis de Rojas, *Tenochtitlán: Capital of the Aztec Empire* (Gainesville: University Presses of Florida, 2012). Eduardo Matos, *The Great Temple of the Aztecs* (London:

Thames & Hudson, 1988) describes excavations in the heart of Tenochtitlán, as does Leonardo López Lujan's *The Offerings of the Templo Mayor of Tenochtitlan* (Albuquerque: University of New Mexico Press, 2005). Recent economic research on the Aztecs is revolutionizing our perceptions of their civilization. For a selection of essays, see Michael Smith and Frances F. Berdan, eds., *The Postclassic Mesoamerican World* (Salt Lake City: University of Utah Press, 2003). We have accounts of Tenochtilan and the conquest from Bernal Diaz, *The True Story of the Conquest of New Spain*, trans. J.M. Cohen (Baltimore, MD: Pelican Books, 1963), as well as a Mexica perspective in *Broken Spears: The Aztec Account of the Conquest of Mexico* (Boston, MA: Beacon Press, 2006). An authoritative, multi-volume translation of Fray Bernardino de Sahagun's studies of Aztec civilization has been published by Arthur J.O. Anderson and Charles E. Dibble, *Florentine Codex; General History of the Things of New Spain* (Salt Lake City: University of Utah Press, 1982).

Chapter 18 The Foundations of Andean Civilization

Michael Moseley's, *The Incas and Their Ancestors* (New York: Thames & Hudson, 2nd ed., 2001), Jeffrey Quilter's *The Ancient Central Andes* (New York: Routledge, 2014), and Helaine Silverman, ed., *Andean Archaeology* (Malden, MA: Wiley-Blackwell, 2004), Silverman and William H. Isbell's edited volume, *Handbook of South American Archaeology* (New York: Springer, 2008), and *Andean Ontologies: New Archaeological Perspectives*, ed. María Cecilia Lozada and Henry Tantaleán (Gainesville: University of Florida Press, 2019) offer broad coverage for the development of ancient civilizations in the Andes. For the origins of civilization, see Michael Moseley, *The Maritime Foundations of Andean Civilization* (Menlo Park, CA: Cummings Publishing, 1975). For maize on the coast, see Jonathan Haas, Winifred Creamer, Luis Huaman Mesia, David Goldstein, Karl Reinhard, and Cindy Vergel Rodriguez, "Evidence for Maize (Zea *mays)* in the Late Archaic (3000–1800 B.C.) in the Norte Chico region of Peru," *Proceedings of the National Academy of Sciences* 150, 13 (2013): 4945–4949. For Caral, see Ruth Shady Solis, *Caral, Supe: La civilización más antigua de América* (Lima: Instituto Nacional de Cultura, 2003), also Ruth Shady Solis, Jonathan Haas, and Winifred Creamer, "Dating Caral: A Prehispanic Site in the Supe Valley on the Central Coast of Peru," *Science*

292 (2001): 723–726, and Shady Solis, Caral: The City of the Sacred Fire/La Ciudad del Fuego (Lima: Centurs Sab, 2004). Jonathan Haas and Sheila Pozorski, *The Origins and Development of the Andean State* (Cambridge: Cambridge University Press, 1987) covers much valuable material. For the Sechín Complex: Shelia Pozorski and Thomas Pozorski, "The Sechín Alto Complex: And its Place within Casma Valley Initial Period Development," in William H. Isbell (ed.) *Andean Archaeology* (New York: Kluwer/ Plenum, 2002), pp. 21–42. For highland religious traditions, see Christopher Donnan, ed., *Early Ceremonial Architecture in the Andes* (Washington, DC: Dumbarton Oaks, 1985).

For Chavín, see Richard Burger, *Chavín and the Origins of Andean Civilization* (New York: Thames & Hudson, 1992) and the same author's "Chavín de Huantar and its Sphere of Influence," in Helaine Silverman and William H. Isbell (eds.) *Handbook of South American Archaeology* (New York: Springer, 1008), pp. 681–705, as well as *Chavín: Art, Architecture, and Culture*, ed. William J. Conklin and Jeffrey Quilter (Los Angeles: The Cotsen Institute of Archaeology Press, 2008). Silvia Rodriguez Kembel and Herbert Haas, "Radiocarbon Dates from the Monumental Architecture at Chavín de Huantar, Peru," *Journal of Archaeological Method and Theory* DOI 1007/s10816–013–9180–9 (2013) refines and updates the chronology of this important site. Andean religions, ancient and modern, are superbly described and analyzed by Lawrence Sullivan, *Icanchu's Drum* (New York: Free Press, 1989).

Chapter 19 Andean States (200 B.C.–A.D. 1534)

Several books already cited for Chapter 17, including Michael Moseley's, *The Incas and Their Ancestors*, 2nd ed. (New York: Thames & Hudson, 2001), Jeffrey Quilter's *The Ancient Central Andes* (New York: Routledge, 2014), and Helaine Silverman, ed., *Andean Archaeology* (Malden, MA: Wiley-Blackwell, 2004), Silverman and William H. Isbell's edited volume, *Handbook of South American Archaeology* (New York: Springer, 2008), and *Andean Ontologies: New Archaeological Perspectives*, ed. María Cecilia Lozada and Henry Tantaleán (Gainesville: University of Florida Press, 2019), offer pertinent overviews for this chapter as well. There is a robust and ever-growing literature on Moche civilization. See Walter Alva and Christopher Donnan, *Royal Tombs of Sipán* (Los Angeles, CA: Fowler Museum of

Cultural History, 1993). This lavishly illustrated book includes a general description of Moche civilization. See also Christopher Donnan and Donna McClelland, eds., *The Burial Theme in Moche Iconography* (Washington, DC: Dumbarton Oaks, 1979) and Donnan and McClelland, *Moche Portraits from Ancient Peru* (Austin: University of Texas Press, 2016). Other books include Elizabeth Benson, *The Worlds of the Moche on the North Coast of Peru* (Austin: University of Texas Press, 2012), Steve Bourget, *Sacrifice, Violence, and Ideology among the Moche: The Rise of Social Complexity in Ancient Peru* (Austin: University of Texas Press, 2016), Joanne Pillsbury, ed., *Moche Art and Archaeology in Ancient Peru* (Washington, DC: National Gallery of Art, 2001), Jeffrey Quilter and Luis Jaime Castillo B., *New Perspectives on Moche Political Organization* (Washington, DC: Dumbarton Oaks Research Library, 2010), as well as Castillo, *San José de Moro y la Arqueología del valle de Jequetepeque* (Lima: Fondo Editorial de la Pontificia Universidad Católica del Peru, 2011), and *The Art and Archaeology of the Moche: An Ancient Andean Society of the Peruvian North Coast*, ed. Steve Bourget and Kimberly L. Jones (Austin: University of Texas Press, 2008). For Nasca, see Anthony Aveni, *Between the Lines: The Mystery of the Giant Ground Drawings of Ancient Nasca, Peru* (Austin: University of Texas Press, 2000) and Helaine Silverman and Donald A. Proulx, *The Nasca* (Malden, MA: Wiley-Blackwell, 2002).

For Tiwanaku overviews of Tiwanaku, see *Ancient Tiwanaku*, by John W. Janusek (New York: Cambridge University Press, 2008), *Visions of Tiwanaku*, ed. Alexei Vranich and Charles Stanish (Los Angeles, CA: Cotsen Institute of Archaeology, 2013), Alan Kolata, *Tiwanaku* (Oxford: Blackwell, 1993). *Early* state formation in the Titicaca region: Charles Stanish and Abigail Levine, "War and Early State Formation in the Northern Titicaca Basin, Peru," *Proceedings of the National Academy of Sciences* 108, no. 34 (2011): 13901–13906, offers an excellent account of this important kingdom; Clark L. Erickson, "Applied Archaeology and Rural Development: Archaeology's Potential Contribution to the Future," *Journal of the Steward Anthropological Society* 20, nos. 1 and 2 (1992): 1–16, describes raised field agriculture on the Altiplano. For Wari, see *Wari: Lords of the Ancient Andes*, by Susan Bergh (New York: Thames & Hudson, 2012), Katherina J. Schreiber, "Conquest and Consolidation: A Comparison of the Wari and Inka Occupations of a Highland Peruvian Valley," *American Antiquity* 52, no. 2 (1987): 266–284. See also Michael E. Moseley, Donna J. Nash, Patrick Ryan,

Susan D. deFrance, Ana Miranda, and Mario Ruales, "Burning Down the Brewery: Establishing and Evacuating an Ancient Imperial Colony at Cerro Baúl, Peru," *Proceedings of the National Academy of Sciences* 102, no. 48 (2005): 17264–17271.

For Chimor and Chan Chan, see Michael Moseley and Kent Day, eds., *Chan Chan: Andean Desert City* (Albuquerque: University of New Mexico Press, 1982). A growing literature surrounds the Inka civilization. Terence N. D'Altroy, *The Incas* (Malden, MA: Wiley-Blackwell, 2nd ed., 2014) is an excellent account. See also Geoffrey W. Conrad and Arthur A. Demarest, *Religion and Empire: The Dynamics of Aztec and Inca Expansionism* (Cambridge: Cambridge University Press, 1984), which contains an admirable account of split inheritance and royal ancestor worship, while *The Inka Empire: A Multidisciplinary Approach*, ed. Izumi Shimada (Austin: University of Texas Press) presents a series of more recent studies. John Hyslop, *The Inca Road System* (Orlando, FL: Academic Press, 1984) and *Inka Settlement Patterns* (Austin: University of Texas Press, 1990) are excellent discussions of those aspects of Inka administration. For governance, see Terence D'Altroy, *Provincial Power in the Inka Empire* (Washington, DC: Smithsonian Institution, 1993). John Hemming, *The Conquest of the Incas* (New York: Harvest, 2003) is a stirring account of the Spanish Conquest, while *The First New Chronicle and Good Government: On the History of the World and the Incas up to 1615* by Felipe Guaman Poma de Ayala (trans. Roland Hamilton, Austin: University of Texas Press, 2009) offers an indigenous perspective on the colonial encounter and its aftermath.

Chapter 20 Epilogue

Paul Kennedy, *The Rise and Fall of the Great Powers* (New York: Random House, 1987) offers a telling account of the shifting parameters of global power during the past five centuries. Eric Wolf, *Europe and the People without History* (Berkeley: University of California Press, 1982) and Immanuel Wallerstein, *The Modern World System* (London: Academic Press, 1974, 1980) are essential reading. Stephen K. Sanderson, ed., *Civilizations and World Systems* (Walnut Creek, CA: AltaMira Press, 1995) provides a critique of world systems approaches. Ahsan Jan Qaisir, *The Indian Response to European Technology and Culture A.D. 1498–1707* (New Delhi: Oxford University Press, 1982) offers an excellent account of the reasons why

Mughal India adopted some features of European technology and rejected or ignored others.

A proliferating literature on the collapse of pre industrial civilizations is well explored by Joseph Tainter, *The Collapse of Complex Societies* (Cambridge: Cambridge University Press, 1990). See also Ronald K. Faulseit, ed., *Beyond Collapse*: *Archaeological Perspectives on Resilience, Revitalization, and Transformation in Complex Societies* (Carbondale: Southern Illinois University Press, 2015). Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Penguin, rev. ed., 2011) is a popular treatment of a complex subject.

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